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CO-OPERATING

IN CREWE—

MANCHESTER

ELECTRIFICATION

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Uninspiring Budget

IN his Budget Speech on Monday, Mr. Heathcoat Amory, Chancellor of the Exchequer, who made no concessions to the hard-pressed bus industry, nor those expected by motor vehicle builders to aid their expansion of factories in areas of under-employment, formally recognised the need to finance the railways in 1960-61 by Government grant. He mentioned first the prospect of higher expenditure and secondly the change he proposed in the method of finance. "In the calculations which I have so far made for the coming year I have included below the line a sum of £90 million for the expected deficit of the Commission in the year," he said. "I have, however, to bear in mind that, although this figure includes the cost of the recent five per cent interim increase in railway wages, it includes nothing in respect of any further increases which may result from the negotiations now in progress on the Guillebaud report. The deficits of the Commission have, since the passing of the Transport (Railway Finances) Act, 1957, been financed by advances from the Exchequer. These have been on the basis that the Commission would eventually make profits out of which it could both pay interest on the advances and repay the principal. It has become apparent that the prospects of the railways and the Commission are not now such as to justify the continued financing of the deficit by repayable advances. The treatment of such advances as have already been made, and the question of the future capital structure of the Commission, are matters which will be decided by the Government in connection with the measures foreshadowed on March 10 by the Prime Minister." The Bill to cover detailed proposals could not be brought in until next session.

Channel Crossing

LAST week the Government received the report of the Channel Tunnel Study Group and the subject was also discussed at a meeting of the Parliamentary Channel Tunnel Committee at the House of Commons, where lack of enthusiasm by certain M.P.s appears to have been manifest. But Sir Ivone Kirkpatrick, British president of the international study group, rejected the theory that Hovercraft development would jeopardise the tunnel's future. He thought there would be plenty of traffic for both—indeed, more traffic than the economists have estimated. These events have been the signal for the announcement of two unconventional schemes for a Channel crossing. A consortium of British, American and French constructors, respectively Richard Costain, Limited, Hyperion Constructors and Kaiser Engineers and Constructors, and Entreprises Campeon Bernard has submitted to the study group a plan for a submerged tunnel resting in the bed of the sea; it is claimed it could be completed in 3½ years at prices ranging from £72 million (41 ft. in diameter), £77 million (44 ft. diameter) to £96 million (53 ft. diameter). The last-mentioned provides for four rail tracks on two levels; one pair of tracks would be reserved for trains shuttling road vehicles through the tunnel. On the other hand a similar affiliation of international interests—Dorman Long (Bridge and Engineering) Limited, Compagnie Française d'Entreprises and Merritt, Chapman and Scott Corporation of America—has put up to the study group a bridge scheme which would employ 800,000 tons of steelwork and cost perhaps £200 million. A bridge was previously rejected as too costly. The new project offers two rail tracks, two motor cycle tracks and a five-lane highway and so despite a greatly enhanced cost has the very attractive feature of unhampered passage for road vehicles. It avoids the fire and ventilation hazards of a tunnel, even if those of gales have to be faced. Other advantages put up by the promoters, from worldwide experience of bridge construction, include division of the work among many firms and interests, whereas that of a tunnel is confined to two working faces; a lower unit cost per ton, per passenger or per vehicle, after allowing for cost of maintenance; benefits not confined to rail traffic alone and thus more

CURRENT TOPICS

widely spread, as seems proper to a venture with Government-guaranteed finance; no restriction on railway motive power; and road vehicles of the largest sizes. Navigation spans would have a height of 230 ft. and in ordinary spans (of 740 ft. between pier centres) a headroom of 170 ft. would be available, so no practical obstruction to shipping is offered. The maximum depth of water is 165 ft., which is no obstacle. Tunnel potentialities were surveyed in an Institute of Transport paper by Mr. M. A. Cameron, principal officer (administration), B.T.C., summarised in our March 19 issue.

into account the probable growth of air traffic during the next ten years. This is one of the reasons for no definite decision having yet been taken as to the form of connection between the buildings and the aircraft. Possibilities include fingers, gangways from the first floor to the aircraft door, and mobile lounges. It is felt that the further experience which will have been gained with these at other airports will be valuable when the near-completion of the buildings makes the final selection necessary. The area limitations of the site necessitate a two-floor arrangement for the passenger building, but it seems that

evening times in each direction that are likely to be of the maximum advantage to business men. In addition to the expresses, a fleet of multiple-unit diesel trains is now providing an even-interval service, twice hourly in each direction, between both Edinburgh and Kirkcaldy and Edinburgh and Dunfermline, with one of each pair of trains, generally a semi-fast, extended to and from Dundee and Perth respectively. An interesting feature of the Edinburgh—Perth additions is that, by good connections at Edinburgh, after many years the fastest route between Perth and London has become, by a considerable margin, that to and from Kings Cross. One transit by railcar and *The Talisman* from Edinburgh enables a Perth passenger to reach Kings Cross in 8½ hr.

Road Transport Education

THE annual report for 1959 of the National Committee on Road Transport Education, of which Mr. Raymond W. Birch is chairman and Miss D. M. Kirby of London Transport is hon. secretary, is now available. The good work begun in 1945 is continued and examination candidates in Manchester, for example, were almost double the number entered last year, although the London figure was disappointingly low. There was a small but welcome increase in road haulage candidates and it is felt that goods vehicle operators could do more to publicise the objects of the committee among their employees. Operators are asked to nominate an officer or senior employee to answer questions; distribution of the Royal Society of Arts pamphlets would be useful. Employers should ascertain if the local commercial or technical college runs classes or would do so if sufficient demand were made known. The encouragement of men prepared to volunteer to act as instructors would also be helpful as well as the encouragement of students to learn more about the business they are engaged in. Local sub-committees representing road transport operators (including ancillary users), trade union branches and technical colleges can deal with publicity and recruitment for classes on a regional basis. It is good news that the need of textbooks is to be met soon. The R.S.A. diploma in road transport is a worthwhile means of fostering the interests of men who are prepared to learn more about their job and recognition of this fact at all levels deserves assistance from everyone in the road transport industry.

Diesel in Level Crossing Accident

THE driver of the 10.35 a.m. Alnwick—Newcastle passenger train was killed when, on September 15 last, his train, running at 50-55 m.p.h. under clear signals, struck a loaded lorry at Stobswood occupation level crossing between Chevington and Widdrington stations. Reporting on the accident Colonel J. R. H. Robertson, inspecting officer of railways, states that death resulted because the full shock of the train's impact with a heavy mass was taken by the front of the cab and not by the buffers and underframe. It is the first time this has happened and the B.T.C. is considering strengthening the fronts of future diesel cars. The accident is attributed to irregular working on the part of the crossing keeper, a practice "which had grown up at this crossing and had escaped the vigilance of the stationmaster despite his regular supervision." The inspecting officer explains that irregular working had not become a habit in this case because instructions were impracticable or unreasonable. The Newcastle—Berwick main line is due to be re-signalled in 1961, when the crossing will come under the protection of colour light signals; until then, he says, the present instructions for working the gates, if strictly enforced, should ensure safety. Only five of the 30 to 40 passengers were slightly injured, and Colonel Robertson remarks that the fortunate escape of the two-car set which formed the train emphasises the value of toughened glass; all transverse partitions in diesel cars are in future to be fitted with it in place of plate glass.

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Fuel Injection and Electrics

MORE than 300 delegates, comprising C.A.V. agents and users of C.A.V. electrical and fuel-injection equipment from eastern and southern England, met at Eastbourne last week at the Southern Areas Agents Conference convened by C.A.V., Limited. A full day of business sessions from 9.30 a.m. until 6.30 p.m. offered varied fare, covering practical issues concerning transport, agricultural and industrial applications of C.A.V. equipment. During the main afternoon session two papers were presented—*Turbochargers for Diesel Engines*, by Mr. E. Kellett, head of the C.A.V. turbocharger department, and *Research into the Combustion Characteristics of Oil Engines*, by Dr. A. E. W. Austen, chief engineer, C.A.V., Limited. Both were adequately supported by slides, some of those illustrating Dr. Austen's paper, taken by high-speed camera through a quartz window in the combustion chamber of a working research engine, graphically presenting aspects of advanced research into combustion problems quite new to most of the audience. Apart from interest and instruction derived from the papers and discussion thereof, useful purpose was served by the forum—a traditional feature of these annual C.A.V. conferences—during which fairly uninhibited questions asked by users of the company's products are answered by a panel of C.A.V. section heads. Abstracts of Dr. Austen's and Mr. Kellett's papers will appear later.

Next Stage at London Airport

SOME details were announced on Monday of the new passenger buildings which are now under construction on the south-west face of London Airport Central. Between the late summer of 1961 and mid-1962 they should replace the variegated collection of buildings comprising London Airport North which is used by passengers on almost all long-distance flights other than those of Trans-Canada Air Lines. The cost of the new buildings is put at £3 million and their design, which has been evolved by Mr. Frederick Gibberd, the architect of the earlier central area buildings, has needed to take

most of the drawbacks arising from this in the existing south-east building have been overcome. The passenger building will be flanked by two office blocks, combining with it to form a rectangular forecourt. This will provide a considerable parking area. The length of time since the report of the Millbourn Committee is considerable and the autumn of 1961 is some way ahead yet. It must be deemed fortunate that the "temporary" London Airport North works more efficiently than outward appearances would lead one to expect.

Competition Across the Firth of Forth

COMING events cast their shadows before. It is hardly surprising that the progress of work on the road bridge across the Firth of Forth should have stirred the Scottish Region of British Railways to a revolutionary improvement in the passenger train service over the Forth Bridge, which now carries four regular-headway trains an hour, plus expresses and freight over much of the day, for the first time in its career. Diesel locomotive power, with its high starting tractive effort, provides an ideal basis for acceleration over such a route as that from Edinburgh to Aberdeen, with its sharp curvature and long and steep gradients, and, in particular, its sharply rising starts from almost every intermediate stop. It is with twin-unit diesel-electric locomotives, therefore, that an average cut of about 30 min. has been effected, since April 4, in the schedules of all seven regular expresses in each direction between Edinburgh and Aberdeen, with individual accelerations ranging from 19 to 70 min. For the third time in the history of the route, 3 hr. timings are now in operation over the 130½ miles; the new 4-4-2s designed by W. P. Reid for the N.B.R. in 1906 in order to compete with the Caledonian could not keep the 3 hr. schedules then adopted and soon slowed down; war in 1939 brought to an end similar timings introduced in 1937, and easily maintained by Gresley's 2-8-2 and 4-6-2 engines. The present service provides two 3 hr. trains in each direction daily, at morning and

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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

Merchant Shipping Design and Operation

IN no branch of the transport industry is the size of the vehicle more important, and more difficult to assess in the light of trading requirements, than in shipping. Within limits the bigger the ship the lower the overall operating costs, provided capacity is fully utilised. Then there is the question of speed. A 10,000-ton d.w. diesel tramp, for instance, uses 11½ tons of oil a day to steam at 12½ knots; add another 2½ knots to the speed, and consumption will go up to 25½ tons, an increase in fuel cost of over 100 per cent—and every ton of bunkers means a ton less dead-weight cargo carried. Nevertheless, given equal rates, the shipper will obviously favour the faster ship. Delivering the annual shipping lecture to the Institute of Transport in the handsome banqueting hall of the Fishmongers' Company on April 4 Mr. R. Stewart MacTier, partner in Alfred Holt and Company and a director of the Glen Line, pointed out that it was basically to these two factors—size and speed—that the shipowner has to apply his guess of what trading conditions will be like over the next 25 years or so. Unfortunately, the position is complicated by the overriding importance of the speed of merchant ships in the emergency of war. This fact, coupled with the growing obsession of foreign governments with the prestige value of a merchant navy, is a serious deterrent to the strictly commercial operator in the person of the British shipowner. Bearing in mind the value of high speed in war a government, financing in peacetime the development of its mercantile marine, can seldom resist the temptation of insisting on faster ships than business justifies.

Speed and Subsidy

THIS tendency is common to most countries which subsidise their merchant shipping, but Mr. MacTier quoted the Japanese and the Americans as the worst examples:

During the "China Incident" the Japanese for strategic reasons subsidised the building of a number of 19½-knot tankers and dry cargo ships, i.e. ships fully four knots faster than the economics of commercial trading at the time warranted. Similarly, in financing their postwar building policy the Japanese have deliberately encouraged high speeds. United States shipping policy has been even more damaging. In 1951 Congress decided, partly on strategic grounds and partly to increase the competitive power of their merchant fleet, to build the *Mariner* class, and within a few years 35 20-knot ships were commissioned. In varying degrees this policy of what they call "built-in defence features," which includes high speed, has been continued since.

In consequence the purely commercial shipowners, who must compete with such subsidised tonnage, are forced to build faster ships than are commercially warranted. Hence the possibility that more and more ships throughout the world will have to operate at uneconomic speeds, with an

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ultimate all-round demand on governments for subsidies. Meanwhile it is significant to note that in the last 20 years there has been a tremendous increase in overheads as a percentage of the total voyage costs alongside a comparatively modest growth in fuel costs. As regards overheads, according to Mr. MacTier depreciation on capital has increased between 1939 and 1959 by 300 to 400 per cent, cost of manning by 450 to 475 per cent and victualling by 300 to 350 per cent. Fuel cost per day has gone up by some 170 per cent and handling costs per ton of general cargo by 300 per cent. For a 16½-knot cargo liner this means that overheads can represent 55 per cent of total round voyage costs and fuel as little as 9½ per cent. These facts emphasise the economic inducement in ship design to reduce round voyage times and they underline the advantages of the big fast ship.

Time at Sea and in Port

ON both economic and political grounds shipowners must necessarily strive at reducing time at sea and time in port. The former implies greater speed to the extent that it can be derived from the growing efficiency of marine machinery and the reduced hull resistance of the welded ship, and the latter requires more mechanisation both on the dockside and on the ship, an economic factor which has resulted in the emergence of the various types of specialised vessel. Traditionally, said Mr. MacTier, the deep sea tramp is a bulk carrier capable of getting into the vast majority of ports and of loading and discharging its own cargo. The low value of most bulk cargoes could not justify high speeds and today the trend seems to be towards the increasing production of either a tramp of 15 knots—expensive but which could be time-chartered to a liner company—or a specialised bulk carrier, and he observed that a tanker can and does carry bulk grain. The design of tankers, of which at the moment there is much surplus tonnage, has been completely revolutionised by the policy of the oil companies of refining in the consuming areas instead of in the oilfields. As a result the modern crude-oil carrier is designed not to deliver products to various destinations but to maintain a shuttle service between the oilfields and a comparatively small number of deep-water refinery terminals. Of this full advantage has been taken by increasing the size of such ships, so that tankers of 47,000 and 65,000 tons are now commonplace.

Nuclear Power Problems

THE lecturer found it difficult to perceive the lines along which the deep-sea cargo liner is likely to develop. Such ships are already operating at from 16½ to 17 knots, above which the shaft horsepower curve against speed and fuel consumption rises very steeply. Even more intractable is the problem of how to cut down time in port: few deep-sea liners are able to spend less than 180 days a year in loading and discharging cargoes, a process Mr. MacTier regards as still a very primitive one. Most specialised cargoes, for instance oil seeds and grain, can be handled mechanically. General cargo, on the other hand, gives rise to a variety of problems towards the solution of which roll on-roll off principles and the wider use of containers can to some extent contribute; regarding the latter he is optimistic. The concluding portion of the address was devoted to an authoritative exposition of the principles and possibilities of nuclear propulsion, in which he suggested some lines of thought to stimulate speculation. For instance, because of its high capital and low fuel costs nuclear power is at its economic optimum in continuous running plant and its ideal application is therefore basic-load power stations; for warships nuclear propulsion is fabulously extravagant, but the tactical advantages are so enormous, particularly for submarines, that atomic navies are a certainty. He concluded that the merchant ship, with its varying power requirements and time spent in port with machinery shut down, is not a good proposition for nuclear power. But as a nation we could not exist without seaborne supplies; depending on oil, as these do today, one could not help feeling that the stark necessity of survival would result in devotion of money and effort to the development of an alternative source of power for ship propulsion.

NEWS SUMMARY

BUDGET concessions to transport appear conspicuous by their absence. The deficit on British Railways will, subject to legislation to be introduced, be dealt with in 1960-61 as "above the line," where it is treated as a direct payment out of revenue.

The working party set up by the British Transport Commission and the three unions to deal with the Guillebaud report recommendations has begun its work.

The United States Lines cargo shed at Berth 4, Victoria Dock, provided by the Port of London Authority, is 700 ft. long by 200 ft. wide—a record unobstructed space. It was opened by the American Ambassador, Mr. John Hay Whitney, on April 5.

The membership of the planning board that is to work out details of the B.T.C. reorganisation within the framework set out by the Government is announced as follows: Sir Ivan Stedeford, chairman; Dr. R. Beecching, Mr. H. A. Benson and Mr. C. F. Kearton. There will also be Treasury and Ministry of Transport representation.

British Waterways is holding an exhibition of pleasure craft and floating equipment at the Gas Street basin, off Broad Street, Birmingham, April 26-29.

The National Committee for Road Transport Education annual report for 1959 shows that 410 candidates for the R.S.A. diploma examinations sat at 47 centres and worked 1,232 papers. The largest category of candidate comprised 134 drivers.

INTEGRAL DOUBLE-DECK BUS

For Midland 'Red' Services

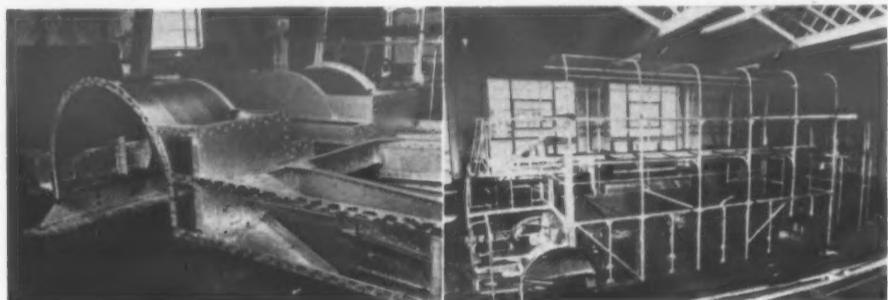
ATTRACTIVE 72-SEAT REAR-ENTRANCE VEHICLE

EVER since the need of specialised vehicles was realised by the Birmingham and Midland Motor Omnibus Co., Limited, in the period of jitney competition just after the war of 1914-18, the company has upheld a tradition of building many of its own vehicles and of maintaining itself in the forefront of design—sometimes running far ahead of what could be obtained commercially. Ultra light-weight 37-seat single-deckers, the underfloor-engined vehicle, 40 and, when the law permitted, 44 seats on two-axle single-deckers, independent front suspension, Metalastik rubber suspension all round, and integral construction have been successfully tackled. There is a fleet of over 250 integral single-deckers and a proto-

fluid and centrifugal clutch used in conjunction with an electrically controlled hydraulically operated gearbox built by Self-Changing Gears, Limited. The final drive is by an 8½-in. centre worm and wheel.

The body, particularly at the front, is of a completely new style, providing both excellent forward vision for the driver and engine accessibility under a particularly nice bonnet cover. A rear entrance is retained and double jackknife power-operated doors are fitted. For the interior finish extensive use has been made of Formica and Filon (sheet fibreglass), thus eliminating the need of repainting. The interior appearance has been further brightened by the adoption of peony red and white as the colour scheme.

Seating capacity has been limited to 72, although if required this can be increased slightly. The use



The first and third stages of construction of the Birmingham and Midland D9 integral double-decker

type double-decker has been severely tested.

At the present time 95 new double-deck 72-seat buses of the integral D9 class are in hand, and the building of a further batch of 100 has been authorised. In addition, another 100 S14 integral single-deck buses and 33 C5 coaches (forerunner of the special motorway coach) are to be built by 1962, the cost of the whole order being estimated at £1,233,000. Beyond that, experiments are to be made with an integral underfloor-engined front entrance double-decker of maximum capacity, now being prepared at the company's headquarters works, while an air-cooled bus engine is also the subject of trial.

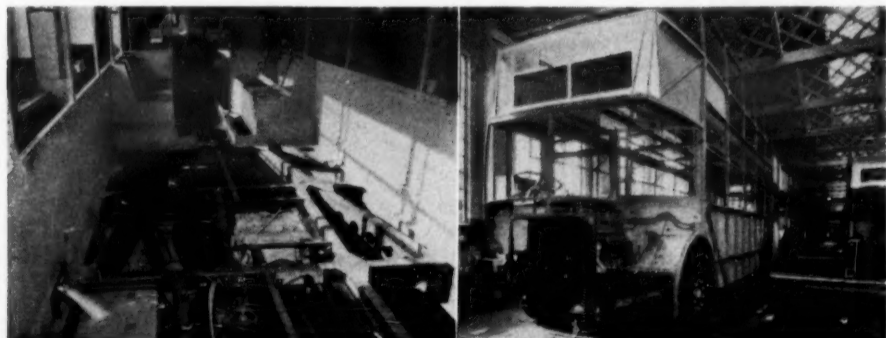
A Fine Vehicle

We have now had an opportunity of riding on one of the D9 72-seat double-deckers on the Hagley Road and of making a comparison between its riding fully laden and with a load of a dozen passengers. The two states are barely, if at all, distinguishable and the smooth journey and excellent cornering are a powerful tribute to the efficacy of rubber suspension. Another aid is the modest power assistance to the steering, which enabled the driver to tackle tight roundabouts with very little loss of time.

Since the introduction in 1953 of the S14 single-deck vehicles and the successful performance under service conditions of over 250 vehicles of this type, the design of a double-deck vehicle incorporating the same advanced features as the S14 has been under consideration. The result has been the development of the entirely new 72-seater double-deck vehicle designated D9.

Maximum Dimensions

Built to the maximum permitted dimensions of 30 ft. by 8 ft., the D9 is of integral construction and with the exception of the exterior panelling and alloy stress panels, is of all-steel construction.



Frame layout, showing gearbox and fuel tank added—battery boxes are under the longitudinal seats at the rear; right, assembly line awaiting panelling—front of indicator box, the one-piece roof and most of the cab is carried out in glass fibre mouldings

As in common with the S14, variable rate rubber suspension has been employed throughout, with the front wheels independently sprung. In the design of the suspension layout vehicle stability, together with riding quality, has been carefully considered. The success of this policy has been demonstrated by the fact that the vehicle has been successfully tilted to over 30 deg. Disc brakes have been fitted to the front wheels, drum brakes being used on the rear.

The D9 is powered by a 10.5-litre engine of B.M.M.O. design and construction. Driver fatigue has been reduced by the employment of two pedal control, made possible by the fitting of a combined

of a rearward facing transverse seat across the bulkhead in the lower saloon has been avoided by using two longitudinal seats at the front above the front wheel arches. The front axle is well set back. An interesting feature of the seats is that the squabs have been so trimmed to give the impression of individual seats. Particular attention has been paid to saloon ventilation, and heaters are provided in each saloon.

Mechanical Features

A vertical six-cylinder in line diesel engine with direct injection is provided. The bore is 4.88 in.

(124 mm.) and stroke is 5.709 in. (145 mm.) giving a capacity of 10.5 litres. Torque at 1,000 r.p.m. is 465 lb./ft. (derated); 127 b.h.p. is the output at 1,700 r.p.m. (derated). Fuel consumption is .328 pints per b.h.p./hr. at the maximum torque output. The engine has three-point suspension; front mounting has two circular rubber to metal bushes and the rear mounting is on two Metacone suspension rubbers, fixed to the subframe. A stabiliser is fitted on the cross-member. A C.A.V.-type fuel pump fitted with 9-mm. elements, two-speed centrifugal governor and diaphragm-type lift pump is used. C.A.V. injectors of the long-stem type, with four hole nozzles, are employed. There is a combined fluid and centrifugally operated friction clutch, produced by Self-Changing Gears, Limited. The gearbox is a Self-Changing RV28 type and is oil-operated and semi-automatic. The gearbox ratios are 4.28 to 1, 2.43 to 1, 1.59 to 1 and direct top; the reverse ratio is 5.97 to 1. The five-way electric change speed control is finger light.

Steering and Brakes

The rear axle is of the fully floating under-drive worm type, offset to the nearside of the vehicle and giving a ratio of 5.5 to 1. The hydraulically

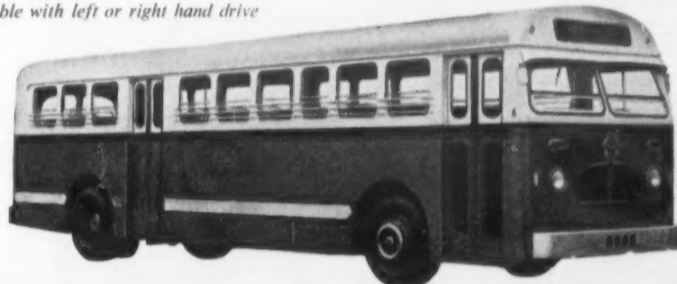


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and goodness knows how far it will have run before it needs any real attention. Of course, Harrison's staff see to it that it is regularly and properly serviced and it has obviously paid them to do so.

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(Continued on page 14)

LORRY—BUS—COACH

Smalls Carriers Face New Tasks

THE increasing importance of marketing distribution facilities in the U.K., and the contribution that through-rated links with Europe will make to Continental trade, were the main themes of a management conference of A. Packham and Co., Limited, the London and Southern Counties storage and distribution operators, on April 1 and 2 at Honiton. Eighteen managers and executives from the London head office and main depots at Bristol, Cullompton and Falmouth, heard the managing director, Mr. A. Packham, say that his views on the changing concept of the smalls carrier were amply born out by the reception given to the new service booklet and rate schedule issued by the company at the beginning of this year. This publication was devised with the new concept firmly in mind and everyone who had received it had welcomed it and put it to use. Manufacturers' marketing problems in the field of physical distribution were becoming so intense that there was little doubt that the coming decade would see a considerable change, if not a reversal, in the present pattern by which the majority of goods in the distributive pipelines—at least 80 per cent—were handled by company-operated vehicles. There was already a very definite trend for even the largest marketing companies to make more use of the independent distribution contractor and thus to free themselves from intolerable management complexities.

Reed Transport Absorbs Thatcham Fleet

OPERATIONS of Reed Transport, Limited, and Cropper and Colthrop Transport Co., Limited, Thatcham, were combined from April 1. The Thatcham company became part of the Reed Paper Group in 1956 in the course of a merger in the paper industry and the amalgamation of operations means that Reed Transport will be responsible for vehicle operating from Thatcham, as well as its existing depots at London, Aylesford and Wigan. Mr. S. J. Ashman, managing director of Cropper and Colthrop Transport Co., Limited, retired on March

31, and Mr. T. J. Cantwell became Thatcham depot manager. Mr. Ashman was the founder of Thatcham Road Transport Service Limited, which was reborn after denationalisation as Cropper and Colthrop Transport. The fleet numbers some 50 vehicles.

Complications of Shorter Week

SHIPBUILDING and engineering employees have been told by the Northern General Transport Co., Limited, that it will have difficulty in pro-



Converted Crosville chassisless vehicle (using Bedford units) serving as a mobile inquiry office at factories, housing estates and coastal resorts. Wheel apertures are enclosed by removable panels and the surround, employed on muddy sites, comprises 11 resin-bonded plywood boards

viding transport at the new finishing times under the new 42-hour week. At present, yards and engineering works finish each day at 5.15 p.m. but under the new arrangement there will be a finishing time of 5 p.m. on Mondays to Thursdays, and 4.30 p.m. on Fridays. Northern says it will be able to offer only 60 per cent of the special buses now operated to meet the 5 p.m. finishing time,

and would be virtually unable to provide anything at all at 4.30 p.m. on Fridays.

Scott and Hewitt Win Appeals

DECISION has now been given by the Transport Tribunal on the adjourned Scott and Hewitt appeals, both of which concerned the revocation of a special A-licence in respect of a vehicle which was operated at an unladen weight greater than that stated in the licence application. In both cases the vehicle was supplied by K. and B. Motors, Limited, Newcastle upon Tyne. The Tribunal adjourned these appeals in March last year in order that the Northern Area Licensing Authority might make certain inquiries into the circumstances of these applications.

The Tribunal now finds that in each case the unladen weight was materially greater than that

lants, by reason of the "expense and anxiety" suffered during the prolonged investigation, are considered to have purged the offence of their "nominal wrongdoing." The Hewitt licence was not due to expire until June 30, 1960, and the vehicle is now restored upon it. The Scott licence was due to expire on April 30, 1959, and therefore no order is made on that appeal. When the S.A. licence for Scott was revoked in November, 1958, the applicant was offered an A-licence for one vehicle at the original (i.e. lower) unladen weight, but he declined it. Last month the Northern Area Licensing Authority issued an A-licence at the higher unladen weight upon receipt of the Tribunal decision, which has now been placed in writing. The Tribunal reiterates its suggestion that in future unladen weights should be supported by a certificate issued by a weighbridge owner approved by the licensing authority concerned.

Tyneside Site Wanted

THE Co-operative Wholesale Society is exploring suitable sites in and around Newcastle upon Tyne for the erection of a large new traffic department.

Fewer Thefts with C-Licences

REPLIES to a questionnaire sent out by the Traders Road Transport Association indicate that C-licensed operators do not appear to suffer from vehicle thefts to the same extent as road hauliers.

R.H.A. on Sources of Railway Deficit

WE all know how much the railways lose—£80 million this year, according to Mr. Macmillan, plus £15 million interest on loans. What the Planning Board should ask first of all is how the money is lost. So said Mr. R. N. Ingram, chairman of the R.H.A., in a speech read for him at the Western area dinner of the Association in Bristol.

Wide Interest in Brighton Rally

THE Brighton Coach Rally, at the weekend of April 23-24, could prove a record for Brighton as far as numbers go for this event. Entries have come from far and wide and an A.E.C. Reliance from McIntyre's Coach Tours, Aberdeen, is the most distant entry ever received. The Beuk company of Noordwijk, in the Netherlands, is again competing with a Scania-Vabis with Roset coachwork. So far there are 34 entries.

New Railway Vehicle Workshops

WORK has commenced on the construction of new buildings at Slough Station to house the head office and main workshops of the road motor engineer of the Western Region of British Railways. He is responsible for the provision and maintenance of the Western Region road fleet of over 3,600 commercial vehicles, 5,300 trailers and 1,600 other units including mobile cranes, fork-lift trucks and engineering plant.

Liverpool Coach Station Opens

EXPRESS services will operate to and from the new Ribble coach station at Liverpool from April 11. It forms part of the double-deck bus and coach station on the 3,500 sq. yd. site bounded by Bolton Street, Skelthorne Street and Hilbre Street. The bus station section will be completed about the end of May. In addition to all express services, Ribble excursions and extended tours will also start from the new coach station as from Monday next, although excursion passengers may continue to join coaches at 30 Islington until further notice.

Faulty Diesel Fuel Connection

A LORRY loaded with 172 cylinders of hydrogen was found after a fire to have a length of rubber pipe fitted to the fuel tank instead of the proper connector. The lorry was practically destroyed by fire on the Sheffield-Huddersfield road. Chief Inspector John Bradshaw, prosecuting, said that if the cylinders of hydrogen had ignited, there would have been a tremendous explosion. The driver was fined £3 for this and his employer, Rob Roy Transport, Shettleston, Glasgow, £10. It was thought that the fire started in the vehicle electrical system.

Fuel Tax In South Africa

THE Automobile Association of South Africa has deplored the fact that the Budget failed to provide assistance to the National Road Fund or made provision for a reduction in the prices of motor vehicles by restoring customs and excise duties on motor vehicles to their pre-1958 level. The association has for some time been urging that diesel fuel used by road vehicles, as well as domestic and refined petrol, should make the same contribution to the National Road Fund as that made by imported petrol. All these fuels are taxed, but the road fund receives no contribution from the tax on locally-produced or refined petrol and diesel oil. The fund depends for its entire income on a contribution of 8½d. per gal. from the customs duty paid on imported petrol.

G.P.O. Spit and Polish

FOLLOWING a complete review made of the cleaning, lubricating, and minor repair duties carried out by its van drivers, the Post Office is to reduce the time allowed for this work from six hours a week to three. No change had been made in cleaning arrangements for many years, despite the improvement in vehicle design. Principal changes in the cleaning schedule include:

Abolishing polishing—previously a complete polish was given every four weeks; sweeping interior of cab twice weekly instead of three times a week; cleaning easily accessible parts of engine and gearbox, previously performed weekly, changed to every four weeks; cleaning chassis reduced from once a week to every four weeks; lubrication to be done every two weeks instead of every week.

In addition, minor repairs which were carried out by the drivers are to be transferred to the workshop staff. This includes cleaning and topping up the battery. One hour a day, three days a week, will be allowed for the cleaning schedule.

Bus and Coach Developments

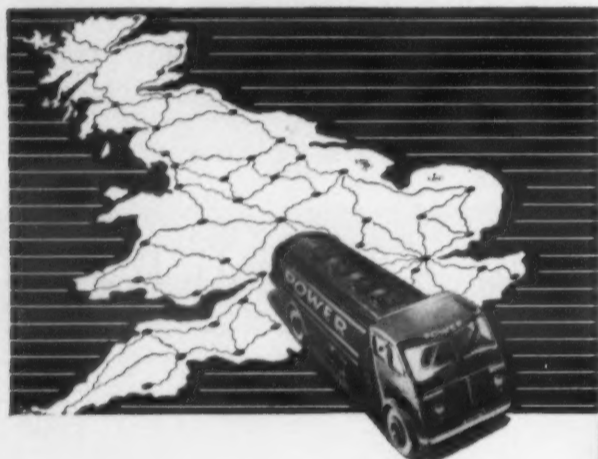
Westbourne Motors (St. Austell), Limited, applies for the excursions and tours of G. A. R. Clarke.

Wallace Arnold Tours, Limited, has acquired the business of Wardways, Limited, Bingley, with 10 coaches. Also acquired is a Manchester travel agency, A. Carter.

York Bros. (Northampton), Limited, applies for the excursions and tours from Northampton and Harpole of M. C. Knight.

Trimdon Motor Services, Limited, proposes a daily service between Horden (Victory Club) and Peterlee (Dene House Estate). Hartle's Tours, Limited, Buxton, applies for excursions and tours licensed to W. D. Hartle and to Lansdowne Motors, Limited.

West Yorkshire Road Car Co., Limited, seeks to modify its Harrogate-Pateley Bridge service and surrender the licences for its Otley-Fewston and Harrogate-Blubberhouses services subject to the grant of new licences for a Harrogate-Stonehouse Inn service and for one between Harrogate and Otley on Tuesdays, Saturdays and Sundays.



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INTRODUCING NEW TUBE CARS

Preparation of L.T.E. Rolling Stock

AT a rate of two or three a month London Transport is now taking delivery of new tube stock trains as the rolling stock replacement scheme gets into full swing. It will be recalled that 76 seven-car trains are on order, and they are being built by the Metropolitan-Cammell Carriage and Wagon Co., Limited, at its works at Saltley, Birmingham. When these trains leave the manufacturer's works, they are fit to be hauled over main line railway tracks at restricted speed but they cannot be complete and ready for service on

motors, of the L.T.112 type, are fitted to both bogies of the motor cars at Ruislip while the car bodies are lifted clear, but as well as the motors and gear pans, the positive and negative shoebeams and shoe gear have to be fitted. The shoebeams travel from the maker's works to Ruislip in the train, but the collector shoes arrive separately, having first been fitted with pigtailed and ferrules (connecting leads) at London Transport Acton Works. The driving end bogies of the driving motor cars have tripcock gear and handbrake rigging



Arrival of a train of new stock at Ruislip hauled by a W.R. 0-6-0 pannier tank with match wagons and brake van and the first car out of its normal position

the Underground system. The essential final preparations and tests are made by London Transport engineers at Ruislip Depot, where certain important equipment is added, including the traction motors.

The cars leave the maker's works with a match wagon marshalled at each end of a seven-car train, the match wagon being fitted with normal British Railways couplings at one end and a special adaptor at the other. In order to marshal cars with suitable couplings next to the match wagons the seven-car sets have to be coupled up in a different order from that in which they will finally run in service. The brakes on the cars are not available for use, so the train has to be hauled at low speeds over the tracks of British Railways. They are brought, one seven-car train at a time, from Saltley

installed at Ruislip, and are fitted with a speedometer generator driven from the traction motor armature shaft.

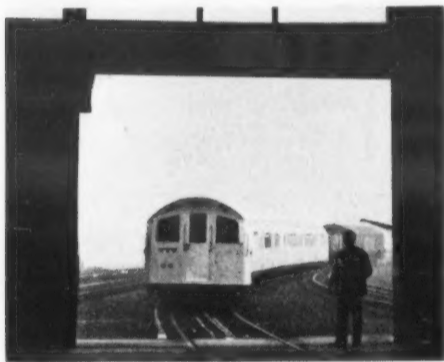
Door Mechanisms

While work on the bogie is in progress, all pipework and conduits on the body of the car are inspected for clearance and rigidity. The body is then lowered back on to its bogies and brake hoses and earthing wires are connected. The mercury-type door interlocks are then adjusted for correct operation—the interlocks are incorporated in an electrical circuit used to indicate to the guard that all doors are properly closed. Meanwhile, the familiar route diagrams and advertisement cards are being fitted inside the cars and the various filament-type lamps and fluorescent tubes are put in place. A complete seven-car train needs 84 5-ft. and eight 2-ft. fluorescent tubes and 52 filament-type lamps (as well as seven emergency lamps). The fire extinguishers carried in each car are placed in position, the various symbols on the cantrails of the cars which show the positions of items of equipment are checked, and finally the car freights are measured once again.

This procedure is common to all cars, but the trailer cars each carry two compressors, the oil level in which must be checked. There are two trailers in a train. The other five cars have motored bogies and call for different treatment. The bodies of the driving motor cars need additional work, including the fitting of the mercury tube retardation controller, which in this stock is mounted behind one of the longitudinal seats instead of in the driving cab, as on earlier stock. The batteries are fitted and connected and the brushes of the motor-generator alternator (which supplies d.c. for control circuits and a.c. for lighting) are checked, and emergency tools and equipment are placed in the cars. The destination blinds are fitted in the boxes at the ends of the cars and the master controller, driver's brake valve, windscreen wiper and cab heater are all tested.

Testing

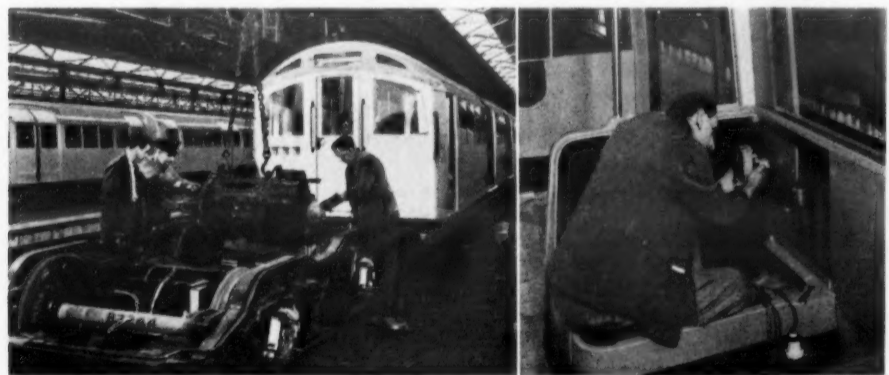
The cars are coupled mechanically, electrically and pneumatically, and all power circuits are given megger tests. Air lines are tested for leakages and doors are checked for correct operation. All electro-pneumatic and Westinghouse brake equipment is given thorough tests, in which a representative of the Westinghouse Brake and Signal Co., Limited, gives assistance. A representative of Associated Electrical Industries, Limited, is also in attendance to check the operation of the traction equipment and all wiring. The final stage is to test operation under power in the depot yard and on the Central Line between Ruislip and White City and to test



A battery locomotive propels some of the cars into the depot

to West Ruislip by the Western Region which delivers them to London Transport Ruislip Depot. There the match wagons are uncoupled and prepared for return to the car manufacturers. The cars of the train are uncoupled and marshalled into their correct running order and various items of equipment, such as shoebeams, which have travelled from Birmingham packed inside the cars, are unloaded. Three types of car—four driving motor cars, one non-driving motor car, and two trailer cars—make up a seven-car train, but much of the work to be done on each type of car at Ruislip is similar.

The first task is to measure various heights and clearances to ensure that they are still correct after the train's first run from the works, during which the rubber suspension units may have settled down.



Lowering a traction motor into a power bogie and, right, adjusting a door interlock on one of the new cars

The more important measurements—which are recorded—are the truck heights, the car solebar heights, axle and play, and the bogie bolster clearance. All running clearances are checked at the same time. Minor matters are attended to at this stage if required. The car is then lifted clear of its bogies, and bogies and bodies are dealt with separately.

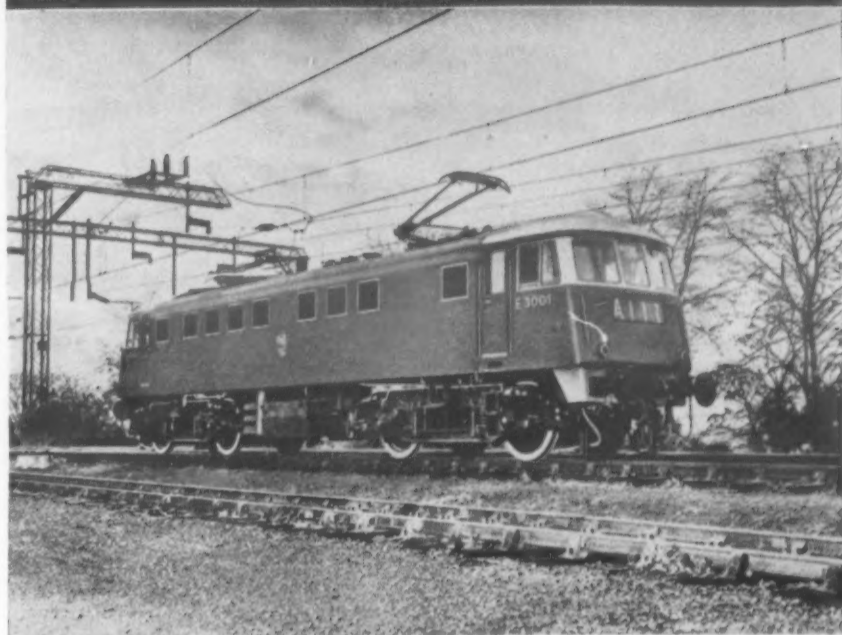
Work on Bogies

On the bogies, the axlebox covers are removed and the bearings are examined. The axle itself is then tested ultrasonically for faults, after which the axlebox covers can be replaced. Shock absorbers and brake cylinders are examined to see that they are functioning correctly and if necessary bolster clearances are adjusted by inserting extra packing as required. Bogie heights are adjusted and the brake-gear is grease-lubricated. The traction

both brake systems under service and emergency conditions. The stock is then ready for service. To meet the urgent needs of the Central Line some of this stock will be diverted from August onwards from the Piccadilly Line thereto; 57 non-driving motor cars have been ordered from Metropolitan-Cammell to make up eight-car formations.

The cycle of work from receipt of the new train to sending it to the running depot takes about eight working days. Two days are given for static tests of various types, and half a day is taken for the trial runs. The men working on these trains include mechanical, pipe, brake and electrical fitters, and bodymakers. All are members of the running division for which Mr. J. Graeme Bruce, mechanical engineer (running—railways), is responsible. All the work is to the requirements of Mr. A. W. Manser, chief mechanical engineer (railways), London Transport Executive.

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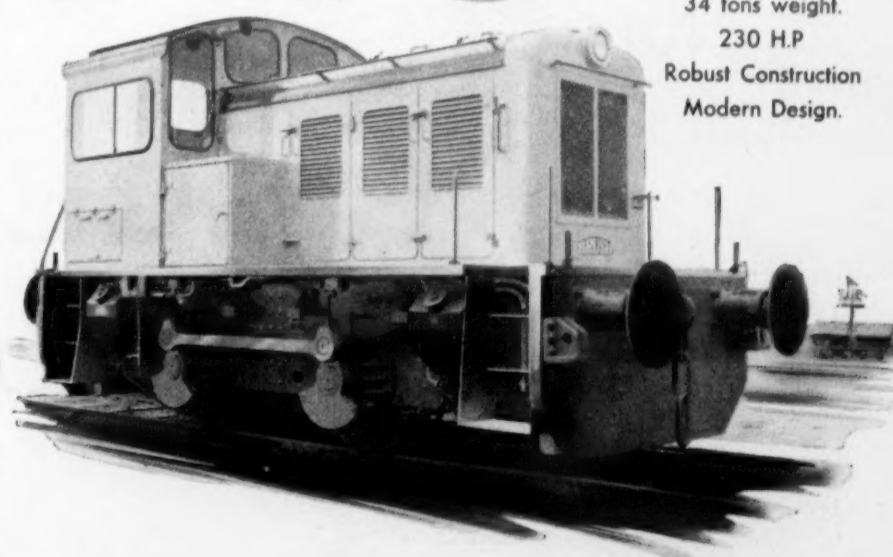
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New techniques in signalling are now confronting the Signal Engineer with the introduction of 50 cycle a.c. traction, and S.G.E. is again in the forefront. The first contract to be placed for a complete signalling installation where 50 cycle a.c. traction is employed has been brought into service by S.G.E. on Eastern Region of British Railways. This installation is on the lines from Colchester to Clacton and Thorpe-le-Soken to Walton-on-the-Naze.

On the Scottish Region S.G.E. are resignalling Airdrie where a.c. traction is being introduced during 1960.

Work is also in progress on the Eastern Region for the conversion of the signalling installations at Liverpool Street and Bethnal Green, Fenchurch Street and Shenfield to Chelmsford and Southend. This work entails the conversion of a considerable amount of existing apparatus, including recircuiting as well as the provision of appreciable quantities of new equipment. This work will be brought into service during 1960.

At all times the knowledge and experience of S.G.E. technicians is available to the Signal Engineer.

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CAMBRIDGE BRIDGE RENEWAL

Road and Rail Traffic Uninterrupted

NOT least of the engineering problems attaching to the British Railways modernisation programme is the stern necessity of avoiding unnecessary dislocation of passenger and freight services. When the work entails rebuilding and

beams straight from road vehicles on the bridge into position parallel with the road. The beams were brought by vehicle and bogey trailer from the manufacturer in Huntingdonshire the day before and were parked in a nearby market until they were required on the bridge.

Main Route to Colchester

The road over the bridge is the main route to Colchester and despite the size of the beams and the extent of the crane operations, traffic was kept flowing throughout the night by closing only one lane of the bridge and having the single-lane traffic controlled at either approach by the police. Each lift had to be made between the passage of trains on the line below, but by the following morning the operation was completed. The work on the Hills Road bridge was a British Railways contract given to A. Monk and Co., Limited, which subcontracted the lifting operation to Pickfords heavy haulage service.

Pickfords crane operations have expanded rapidly in recent years and the fleet of lorry-mounted cranes numbers over 40, of 6 to 25 tons capacity. The advantage of this class of crane is the speed with which it can economically



Renewal of Hills Road bridge, Cambridge: a prestressed concrete beam, removed from a road vehicle on site, is lowered by two Coles 25-ton cranes on to the abutments of the new bridge alongside

widening a road overbridge, the difficulties are further aggravated by the need to keep the road open—or, at least, closed for as little time as possible.

The normal solution is to carry out major work in the small hours of the morning and this method was adopted when the first phase of the reconstruction of the bridge carrying Hills Road, Cambridge, over the Eastern Region line was carried out. By the use of two Coles 25-ton lorry-mounted diesel-electric cranes it proved possible to keep not only rail traffic moving but also single-line road traffic.

The job of positioning on the abutments 12 pre-stressed concrete beams, weighing from 24 to 13 tons and varying in length from 77 to 71 ft., and a steel-structure footbridge 96 ft. long, was done by the two 25-ton cranes, part of the equipment of Pickfords heavy haulage service. The cranes were positioned on the abutments on either side of the bridge and, synchronised by loud hailer, lifted the



The first of the new beams in situ (left); erectors are at work on a temporary footbridge

be sent to undertake even a single lift at distant places. The cranes are based in all principal industrial towns.

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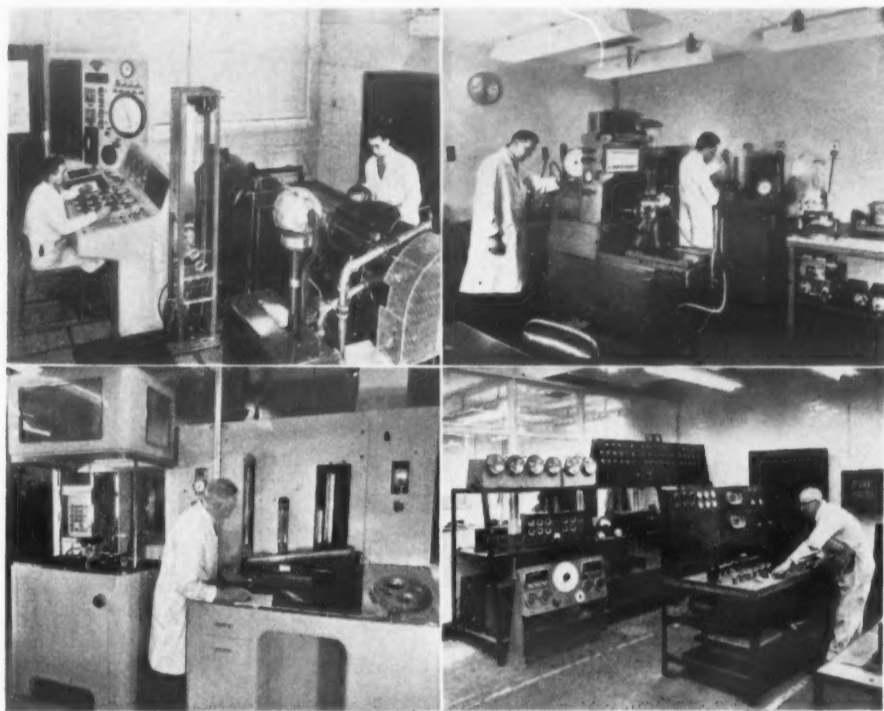
New Facilities at Vauxhall Motors

EXPANSION of the department of Vauxhall Motors, Limited, concerned with vehicle design and improvement has got away to a good start by the recent commissioning at the company's Luton factory of a new engine-development building and additional comprehensive facilities for testing other vehicle components. In announcing the starting up of the engine-development plant this week, Mr. Maurice Platt, Vauxhall Motors director and chief engineer, said: "It is our intention to make our development and test facilities for Vauxhall and Bedford vehicles as good as any in the industry. This new building puts us well on the way."

The 8,000-sq. ft. two-storey building incorporates four dynamometer rooms, a carburation and fuel injection test room and other rooms for equipment, services, stores and office use. The new dynamometers are additional to nine already in service in the main engineering building and are said to be the most advanced of their kind, en-

The additional component facilities extend the use of specially designed rigs set up for the testing and development of specific components or banks of like components. The rigs are designed to reproduce actual operating conditions and often to amplify those conditions—simulating exceptionally severe circumstances of use—by increasing the speed of operation and the loading imposed on the components. By this means more intensive testing than is possible by actual vehicle test on the road can be carried out. At present there are about 20 installations in the new section—many of them notable particularly for the way in which operating conditions have been simulated.

Among the facilities are surface-finish test rigs, in which sheet-steel panels painted with various samples of paint or underbody sealing compounds are subjected to bombardment by $\frac{1}{2}$ -in. gravel—one pint at a time—to assess the resistance of the sample under test; a synchro-gear test, in which gearboxes are subjected to 100,000 gear changes



Vauxhall Motors new test facilities: One of the four dynamometer rooms—one operator sits at the control console while another checks timing with a strobeoscope; a section of the diesel engine fuel-injection test room; below, preparing to make a carburettor flow test using equipment designed and made by Vauxhall; and, right, the section devoted to testing all types of electrical equipment

abling more accurate measurements than hitherto to be made in more closely controlled conditions. Three dynamometers already installed are being worked to full capacity and a fourth will be added in the near future. Later stages of the expansion programme will bring the total of test-room dynamometers of various types up to 16, covering petrol and diesel engines. Other additions will include a vehicle dynamometer (for measurements on engines in vehicles) and a new vehicle coldroom, which will supplement and improve present facilities for low-temperature tests.

Dynamometer Details

The three sets of d.c. electrical dynamometers now in operation are of American manufacture by the General Electric Company; each is of 150-h.p. capacity, with a maximum speed of 6,000 r.p.m. A Heenan and Froude dynamometer of 200-h.p. capacity and a maximum speed of 5,000 r.p.m. is due for installation shortly. The G.E.C. machines have oil-floated trunnion bearings, remote torque indicators and an electronic control system, which gives precision control over speed and torque-speed relationship.

Auxiliary equipment rooms are located between dynamometer rooms. These house oil and water heat exchangers, vacuum pumps, electrical switch and fuse gear and the cylinders for an automatic fire-protection system. The dynamometer-room floors are completely clear of piping, wiring and ducting. Carburettor test work is done in a special room on apparatus designed and built by the Vauxhall engineering department, while fuel injection test equipment provides all facilities needed for checking diesel-engine fuel supply systems.

Fuel Supplies

Fuel storage is centred in a special fuel exchange building alongside the main building. Two main grades of petrol and one of diesel fuel are stored in large-capacity underground tanks and special grades of fuel are stored in 40-gal. barrels. Fuel supplies are fed to a distribution panel in the fuel exchange building, provided with self-sealing couplings. The pipe lines from the panel to the dynamometer rooms run in sand-filled trenches to small underground tanks, one for each fuel. A float-controlled valve in the tanks maintains fuel levels. The fuel is then pumped to a special measuring device in the dynamometer room and so to the engine under test.

Changing of fuel, draining off fuels in the pipe lines and connecting up a fresh supply require special precautions. A special switching procedure, controlled from the dynamometer room, ensures that the correct fuel is fed to the room.

The water system is recirculatory and a large Heenan and Froude water cooler is incorporated in the circuit. Treated water is contained in a large underground tank and is pumped to the building. Make-up water is supplied automatically by a water softening plant.

Among the other advanced facilities provided in the plant are forced-draught ventilation capable of 85 changes of air an hour; heat-exchanger units for lubricating oil and cooling water; fireproof, non-slip flooring; wall finishes eliminating the need for redecoration; and impressive safety precautions, including automatic water sprinkler and carbon-dioxide discharge systems, fireproof doors and automatic shutdown of dynamometer or engine in conditions involving safety risk.

without the use of a clutch; and a seat-testing rig, on which the resistance of vehicle seats to "squirming" and "jouncing" actions can be assessed. Two moulded forms simulating the appropriate areas of the seat occupants are used to represent the conditions required.

A road-wheel test rig is designed to test the strength of rims, rings and wheels. Two road wheels, complete with tyres, are forced together under a known pressure. One of the wheels is motor-driven so that the two rotate together and the tests go on continuously for three to four weeks. Automatic safety devices are incorporated in the machine so that it needs no attention while running. One of the most versatile of the rigs is a stroking machine adaptable for a variety of test purposes on components such as springs and shock absorbers. It can impart twisting and reciprocating actions and combinations of the two. The stroke, speed and load is adjustable and counting devices can easily be attached.

Steering and Brake Tests

In a steering-box test rig, steering columns and steering boxes are subjected to life tests. The number of turns from lock to lock or between any intermediate positions can be preset and a reversing mechanism is incorporated in the machine; a standard Girling power-steering unit supplies the load against which the steering gear must work. Commercial vehicle brake servos are tested on an elaborate machine, which has a vacuum-operated brake pedal linked to the servo under test and springs to represent the opening and closing of the brake-shoe cylinders.

The extensive electrical test section houses benches on which multiple units are mounted for tests which normally involve 50,000 cycles. A fuel-gauge test rig uses two petrol tanks mounted in an oscillator; they contain water which is pumped from one tank to the other. All kinds of electrical items used on cars and commercial vehicles, such as starter-ignition switches, stop-light switches, flasher units, horn buttons, cigarette lighters and so on, are tested on these benches, 20 and 30 at a time. Some of the tests run continuously day and night for six months or longer.

FORTHCOMING EVENTS

Until Apr. 9—Electrical Engineers Exhibition. At Earls Court.
Apr. 11—I.R.T.E. (E. Regional). Annual general meeting. Council Chamber, Houldsworth Hall, 90 Deansgate, Manchester. 7.30 p.m.
Apr. 12—I.Mech.E. (Automobile). A. Fogg. "Performance Testing of the Complete Car." 1 Birdcage Walk, S.W.1. 6 p.m.
I.R.T.E. (Midlands). Annual general meeting. Exchange and Engineering Centre, Stephenson Place, Birmingham. 7.30 p.m.
Apr. 13—I.Mech.E. (Internal Combustion). G. K. Martlew. "Development of Multi-Fuel Engines." 1 Birdcage Walk, S.W.1. 4 p.m.
I.R.T.L. G. L. Gundry. "Paris Trams of Today." 153 Drummond Street, N.W.1. 7 p.m.
I.R.S.E. (York). Annual general meeting and chairman's address. Signalling School, Toft Green, York. 5.30 p.m.
I.R.T.E. (S.E.). Annual general meeting. Wig and Gown Hotel, Maidstone. 7.30 p.m.
Apr. 14—P.W.I. Dr. S. Hulme. "The Duties of a Railway Medical Officer." Railway Institute, York. 6.45 p.m.
I.R.T.L. R. B. Parr. "Tramcar Trucks." Central Y.M.C.A., Mount Pleasant, Liverpool. 7 p.m.
Apr. 19—21—Scottish Road Passenger Transport Association. Annual conference. Turnberry.
Apr. 26—29—Institute of Transport. Fortieth Congress. London.
Apr. 27—May 6—Fuel Efficiency and Power for Industry Exhibition. Olympia.



Here's a truly impressive list of leading commercial vehicle manufacturers who fit Ferodo Brake Linings as initial equipment on some or all of their models.

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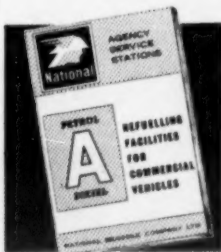
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NEWS FROM ALL QUARTERS

Mayfair Streets Made One-Way

With the introduction of parking meters throughout Mayfair on Monday this week new one-way traffic working was introduced in certain streets in Westminster and Marylebone. These are Aldford Street, Mill Street, Pollen Street, Sackville Street and parts of Broadbent Street, Grosvenor Hill, Shepherd Market and Shepherd Street in Westminster, and Bulstrode Street, St. Marylebone.

Freight Traffic Figures Well

British Railways freight train traffic totalled 4,943,000 tons during the week ended March 20, a rise of 150,000 tons compared with the corresponding week last year. The latest returns show that general merchandise increased by 56,000 tons to 800,000 tons, minerals were 59,000 tons higher at 1,110,000 tons, and coal and coke rose by 36,000 tons to 3,025,000 tons. Livestock decreased by 1,000 tons to 8,000 tons.

Local Authority Railway?

The town clerk of Brackley has asked the British Transport Commission whether a group of local authorities could have permission to take over the Banbury-Bletchley diesel railcar service which is to close at the end of the month. Envisaged is a joint board of representatives of the Banbury, Buckingham, Bletchley, and Brackley councils to operate the service. A reply from the Commission said that the proposal was receiving further consideration.

Bedford Line Diesels Doing Well

Despite a poor start in January, due to mechanical failures and withdrawal of trains, a remarkable increase was recorded in the number of passengers using the new diesel train service between St. Pancras, Luton and Bedford in February. In this first full month the number of journeys made by passengers using tickets other than seasons went up by 19.5 per cent compared with February, 1959, that is, from 261,180 to 312,221. Receipts went up by 24.3 per cent. Car parking facilities at outlying stations have been improved and many people who used to go by car are now avoiding the London parking problem by travelling on the diesels, it is thought.

Rail-delivery Service for Bedfords

The first regular rail-delivery service for Vauxhall cars and Bedford light vans started operating between Luton and Scotland this week. On Monday a special train loaded with 50 vehicles for Scottish dealers set out, arriving at Falkirk 12 hours later. It will be followed by a weekly shuttle-service of three similar trains. Anglo-Scottish Car Deliveries, Limited, of Luton and Edinburgh, which handles the bulk of Vauxhall and Bedford deliveries to Scotland, operates the service, taking over the disused L.M.R. station at Chiltern Green, about two miles from the Vauxhall Luton factory, as a loading point for the trains. The cars and light vans travel to sidings at Bonnybridge, near Falkirk, where they are off-loaded down a specially built ramp, ready for delivery to all parts of Scotland.

Fife Benefits from More Diesels

Coincident with the introduction of diesel trains between Edinburgh, Dundee and Aberdeen this week, diesel trains took over a number of the services on the Edinburgh, Dunfermline, Cowdenbeath and Perth route, giving improved journey times. Between Edinburgh, Dunfermline and Stirling also diesel trains took over most of the services.

Discussions on Rail Wage Structure

The working party of the three railway unions and the British Transport Commission, set up to investigate how the proposals of the Guillebaud committee on increased pay and differentials should be implemented, held its first meeting on Monday. It was concerned mainly with procedure. Subcommittees were appointed to start work almost immediately on proposals for certain of the main sections of railway employees.

Enforced Western Region Cuts

Cuts in train services were made by the Western Region from Monday this week to meet certain operating difficulties arising from the acute shortages of key operating staff in the region. The 12.10 p.m. from Paddington to Wolverhampton was withdrawn, and the 7.30 p.m. from Paddington to Wolverhampton terminates at Banbury on Mondays to Fridays. Certain other trains on this line are affected; the 12.35 p.m. Wolverhampton to Paddington, scheduled to commence May 2, will be cancelled. The 2.55 p.m. Paddington to Swansea is retimed to leave at 3.5 p.m. and combine with the 3.5 p.m. to Bristol.

Assured Arrival on the Southern

A fast one-day freight service is now offered by the Southern Region between London and key towns in Kent, Sussex, Hampshire, and the West Country as far as Bournemouth, Weymouth and Yeovil. The basic principle of this new service—called the "Assured Arrival Service"—is that goods sent before a deadline one day will be available at destination for delivery by railway cartage or clearance by consignee the next morning. It applies both to full wagon-loads of traffic collected and delivered from stations by traders and to consignments collected and delivered by the railway. Each station will have a set time by which goods should be handed in.

Stepney Swing Bridge Rebuilding

A Ministry of Transport grant of £23,829 has been made to London County Council towards the cost (£132,808) of building a new swing bridge over Regents Canal Dock in Narrow Street, Stepney. London County Council will be responsible for a similar amount, and the balance will be paid by the British Transport Commission. The old bridge, which it will replace, was built about 90 years ago and has been closed to traffic for several years because it is unsafe. The carriageway was only 15 ft. wide. [In MODERN TRANSPORT of July 26, 1958, it was suggested that the Ministry of Transport, together with Stepney Borough Council, should assist the B.T.C. to defray the cost of rebuilding this ancient bridge.—Editor.]

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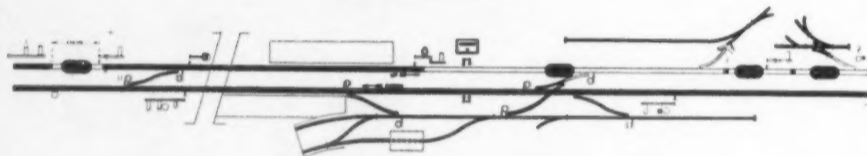
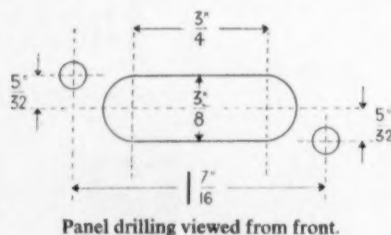


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- A translucent indicating cap usually white or red, to suit the diagram or control panel. When fitted to a $\frac{3}{16}$ " thick panel the front surface of the cap is flush with the diagram.
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Type P.5/1
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Type P.5/2
the unit with 6 B.A. Ch/Hd. screw and special tapped insert for panel.

Notes:

- Colour of indicating cap to be specified.
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COMMERCIAL AVIATION

Rail-Air Excursions

F.A.A. TYNE CERTIFICATE

THE Great Eastern and the London, Tilbury and Southend Lines of the Eastern Region have announced combined arrangements with Channel Air Bridge for rail-air no-passport day excursions to Calais. These excursions, which start on April 10 and finish on October 31, give a whole day on the Continent for as little as £4 4s. 6d. return. Booking is simple as only one ticket is necessary for the whole trip. These can be bought at the following railway stations: Liverpool Street, Stratford, Ilford, Romford, Shenfield, Fenchurch Street, Barking, Upminster and Grays. Joint rail-air day trips are also available to Ostend and Rotterdam and for these journeys passports are at present necessary, but it is hoped that it may be possible to extend the no-passport facility to these places in the near future. Last year the newly introduced no-passport air excursions to the Continent from Southend Airport were a great success. During the season more than 20,000 people enjoyed ten hours on the Continent for the first time without passports. This year the Great Eastern and London, Tilbury and Southend Lines have combined with Channel Air Bridge to make the journey faster and easier, and the booking simpler. The journey from London to Calais takes less than two hours. Following the recent Home Office announcement that no-passport trips can last up to 48 hr., a further announcement will be made shortly about longer excursions.

Yugoslavia Becomes I.C.A.O. Member

Yugoslavia was to become the 77th member state of the International Civil Aviation Organisation on April 8, thirty days after its instrument of ratification to the Convention on International Civil Aviation was deposited.

British United Airways

It was announced on April 4 that British United Airways, Limited, has been approved as the new name for the recently merged Airwork and Hunting-Clan groups of independent airline companies. The name will begin to come into use as soon as possible, but some time will inevitably elapse before all the group's aircraft are flying under the same name and colours.

Manchester Traffic in 1959

Manchester Airport Committee reports that 495,609 terminal passengers used the airport in 1959. Of that number international passengers numbered 131,363, domestic 268,960, Dublin 83,098, charter and private 12,188. Freight handled was 18,872,203 lb. and freight and mail 24,444,969 lb. The increase in freight handled was 20 per cent over 1958 and 16 per cent in the case of freight and mail.

Yeadon Expectations

Passenger services at the Leeds and Bradford Airport at Yeadon are expected to double this year, it was stated at the meeting of the Leeds-Bradford Joint Airport Committee on April 1. Because of this, the Customs facilities have been extended until September. It was also announced that air freight at the airport in the first three months of this year already amounted to more than half the total for the whole of 1959.

T.W.A. Year of Jets

On March 20 Trans World Airlines completed its first full year of jet liner operations. Mr. Charles S. Thomas, president, said that T.W.A. flew 1,670 million revenue passenger miles with its jets during the first year's operations. In the same period more than 814,000 jet passengers were carried resulting in an average load factor, over the 12 months, of 77 per cent. Despite the fact of introducing a completely new and different aircraft type, the airline achieved nearly 99 per cent of scheduled mileage completely by its jets in the first year. This figure includes international services inaugurated in November, 1959.

Flying Tiger Shifts More Freight

Record air freight traffic of 123,600,064 ton-miles for 1959 has been reported by the Flying Tiger Line to the U.S. Civil Aeronautics Board. This was the largest freight volume reported by any U.S. air carrier and it was the second consecutive year in which Flying Tiger led all lines. The 1959 volume represented a gain of 18 per cent over 1958, when the carrier reported 104,073,462 ton-miles. The reports covered both overseas contract and domestic common carriage operations. Reports of other carriers to the C.A.B. showed Pan American Airways in second place in air freight volume with 115,860,010 ton-miles, followed by American Airlines with 103,195,441 and United Airlines with 75,208,620 ton-miles.

Swissair Results for 1959

Swissair final accounts for 1959 show total revenue for the year at Sf.278 million (£23,166,000) and expenditure, after appropriations to depreciation, at Sf.270 million (£22.5 million). This compared with revenue of Sf.252 million and expenditure of Sf.247 million in the preceding year. Net profit for 1959 was Sf.7,498,110 (£625,000), to which was added the previous year's carry-forward of Sf.403,670. Ordinary and supplementary depreciation account for Sf.31.3 million (£2.6 million). The directors have recommended a dividend of 6 per cent for 1959 (same as for 1958). In addition, 800,000 francs are to be allocated to statutory reserve and one million francs to the staff pension fund. A balance of 431,780 francs is to be carried over for 1960.

F.A.A. Approves Rolls-Royce Tyne

The Federal Aviation Agency of the United States has approved Rolls-Royce Tyne turbo-propellers, Mk. 506, 512 and 515, for civil operation. All three ratings have previously been approved for civil operation by the Air Registration Board. The Tyne Mk. 506 (4,320 s.h.p. and 1,210 lb. thrust, guaranteed minimum) and Mk. 512 (4,850 s.h.p. and 1,235 lb. thrust, guaranteed minimum) power the Vickers Vanguard on order for British European Airways and Trans-Canada Air Lines respectively. The Tyne Mk. 515 (5,095 s.h.p. and 1,065 lb. thrust, guaranteed minimum) powers the Canadair Forty-Four on order for the Royal Canadian Air Force, Seaboard and Western Airlines and the Flying Tiger Line. Tyne propellers are also specified for the Short Britannic 3 for the Royal Air Force and for the Fairey Rotodyne. The Breguet Atlantic maritime reconnaissance aircraft and the Transall C.160 transport aircraft for N.A.T.O. will also be Tyne powered. The Lockheed Super Hercules military transport is now on offer with Tyne.

RETIREMENT FROM PLANNING



W. H. F. Mepsted

Mr. W. H. F. MEPSTED, M.Inst.T.

The retirement of Mr. W. H. F. Mepsted from the post of chief development officer, Southern Region, British Railways, took effect on April 1. Born at Gillingham, Kent, William Henry Frank Mepsted entered the goods department of the South Eastern and Chatham Railway at Deal in February, 1912. After gaining further experience at Sandwich and on the relief staff, he entered the office of the Eastern District traffic superintendent at Ashford in 1914. From 1916 until 1919 he served in France and Belgium with the Railway Operating Division of the Royal Engineers. Upon his return to the railway he undertook various specialised duties, including control of the hop-picking traffic arrangements in the Paddock Wood area and the seasonal passenger traffic on the Kent coast. After the grouping of the railways, Mr. Mepsted joined the staff of the newly appointed operating superintendent of the new Southern Division, at Brighton, as passenger trains clerk, where he took part in the reconstruction of the Central Section passenger train timetable. Fifteen months later, in April, 1925, he was appointed assistant stationmaster at Victoria and became senior assistant stationmaster there in May, 1928. In February, 1933, he was made stationmaster at Charing Cross, and in November, 1936, assistant divisional superintendent, London East. In January, 1942, he became divisional superintendent, Southern Division, Southampton, and was a member of the Poole Harbour Commission and the Southampton Port Emergency Committee while he held that post. From October 1, 1943, he was appointed assistant to commercial superintendent, becoming assistant commercial superintendent three months later. In March, 1949, he was appointed commercial superintendent, Southern Region, which post was subsequently redesignated chief commercial manager, and in October, 1958, he took up the post from which he has now retired. In this position Bill Mepsted has organised an exhaustive survey of population trends in relation to future passenger service requirements and made a number of reports. Before the railways were nationalised and subsequently he served on various inter-company and inter-regional conferences and committees dealing with commercial subjects. He has been a member of the South Eastern Area Transport Users' Consultative Committee and a director of the Aldershot and District, Devon General, East Kent, Hants and Dorset, Maidstone and District, Southdown, and Wilts and Dorset bus undertakings.

IN PARLIAMENT

Motorway Anti-Dazzle Screen

TRAFFIC FINES IN NEW BILL

THE experimental anti-dazzle screen along the centre of the motorway M1 apparently gave satisfactory protection from glare, said Mr. ERNEST MARPLES, but he was considering other factors, such as safety, amenity and cost. Wing-Commander R. GRANT FERRIS said that many considered that such a screen would be not only a bad eyesore but would not prove to be a good thing from the point of view of anti-dazzle. Would he further consult the nurserymen of England, who were ready and able to give him sufficient plants of either privet or beech, which could be beautifully staggered, which would do the job properly and would not be difficult to trim? Mr. Marples said he had considered that and had asked the landscape advisory committee to look at it. It advocated fencing as a temporary measure.

Channel Tunnel Report Arrives

MR. ERNEST MARPLES declined to make any statement about the Channel Tunnel, the report of the international study group having only just reached him. He confirmed that the recommendation was for twin railway tunnels.

A Shipping and Aviation Ministry?

MR. E. SHINWELL asked Mr. R. A. BUTLER, representing the Prime Minister, to detach shipping from the Ministry of Transport, which was treating it "in a casual fashion," and either create a Ministry of Shipping or associate shipping with civil aviation. We must wait and see, said Mr. Butler.

Vehicle Defects and Accidents

Arising out of a question about the incidence of mechanical faults in road vehicle accidents, the Minister of Transport repeated his view that the present analysis of road accidents was formed on the wrong basis. It was carried out by the police, and he had now asked the Road Research Laboratory to carry out a very large investigation into a number of accidents, not necessarily only those caused by mechanical defects, but into all defects, human error, and so on.

Railway Planning Board

The composition and terms of reference of the Railway Planning Board were announced by the Minister of Transport this week (see page 2). The chairman of the B.T.C., he added, had agreed with the procedure which the Government is following. Mr. ERNEST MARPLES denied that the recent statement by Mr. J. Hay (MODERN TRANSPORT last week) amounted to an indication to its terms of reference. The proposals put up by the Board would be advisory in character and any Government action upon them could be debated in the House.

Six Roads out of Railways

Six schemes for converting abandoned railway lines into roadways or to other purposes were outlined by Mr. MARPLES in a written answer. They are:

- Part of the reconstruction of the Heads of the Valleys Road, A.465, in South Wales. (Five miles of track between Dowlaes Top Junction and Tafarnau-bach and between Tafarnau-bach and Beaufort.);
- The Monmouth (Gibraltar and Mitchell Troy) diversion on A.40 (approximately 1½ miles of track near Mitchell Troy);
- An improved route for A.17 from near Sutton Bridge, Holland, to the Norfolk-Holland county boundary and from there to the borough of King's Lynn by-passing Cross Keys, Terrington St. Clement and Clenchwarton. (Approximately 9 miles along part of the route of the Midland and Great Northern Joint Railway);
- The improvement to A.470 between Tongwynlais and Abercynon. (Approximately 1½ miles on sections of line at Tongwynlais and between Upper Boat and Rhyd-y-felin.);
- Buckden flyover on the Great North Road between A1 and A141 using a section of railway line already bridged by the trunk road. (Approximately 1 mile.); and
- Part of the Darlington by-pass (approximately 4 miles of the disused Merrybent branch line). An additional mile of railway line will be used if possible modifications at the southern end of this by-pass and a realignment of the Barton by-pass are adopted.

Victoria Line Joins a Big Queue

Newest development in the seemingly interminable deliberations on the justification for the Victoria Line came when Mr. ERNEST MARPLES told a questioner that it must now be considered in the general context of the British Transport Commission's position. The Commission was already incurring huge losses, which would be paid for by the taxpayer. This particular line would add to that loss, and therefore to consider it in isolation would be folly. Mr. A. WEDGWOOD BENN: Is the Minister really saying that there can be no basic decision taken by the Commission until the new planning board has sat, deliberated, made its decisions and had them laid before the House? If that is the case, is not the Minister making the task of the Commission of fulfilling its statutory requirements under the earlier Acts quite impossible? Mr. A. ALBU commented that the London Travel Committee, which recommended the line, did not look at it "in isolation" but in connection with the whole problem of traffic difficulties in the London area; that the building of this new tube would relieve the traffic in the London area, in addition to providing very much needed travel facilities for people in North London.

Traffic Fines in New Bill

On-the-spot imposition of fines for certain traffic offences; a corps of traffic wardens; special temporary powers for the Minister of Transport to relieve traffic congestion in London; additional powers for local authorities to provide off-street parking; these are the principal features of the Road Traffic and Roads Improvement Bill introduced into the Commons last week. Fines of up to £2 may be imposed under clause 1 upon the person in charge of a vehicle which is "obstructing a road, or waiting, or being left or parked, or being loaded or unloaded, in a road" in any area designated by the Home Secretary. Payment of the fine, normally within 14 days, will be to the justices' clerk unless, of course, the vehicle driver elects to be prosecuted for the offence. Traffic wardens will in the first place be concerned only with the control and regulation of stationary vehicles. They may also act as parking meter attendants.

For five years after an appointed day, September 1, 1960, the Minister need not consult the London and Home Counties Traffic Advisory Committee before making regulations under section 34 of the Road Traffic Act, 1960 (the new consolidating measure), for regulating traffic on London streets. This will have special reference to the designation of new parking meter areas. He may also for five years make grants for minor road improvements in London. Powers are taken to try out the parking disc system. There will be no appeal to the Minister against the re-routing or other amendment of a p.s.v. service in the Metropolitan traffic area to accord with regulations concerning routes for such traffic, or stopping or parking places. Second reading is fixed for next Monday.

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RAILWAY WAGONS

Use and Misuse (Cont.)*

By F. C. MARGETTS, Assistant General Manager (Traffic), North Eastern Region, British Railways

CERTAIN specially constructed wagons are controlled individually and centrally. The wagon control centre at York controls 16 classes of specially constructed wagons individually. The stock of all wagons so controlled is an infinitesimal percentage of the total stock. With a declining wagon stock, with the cost of wagons rising every year, with the emphasis on increased capacity, the time may have arrived when individual control of many more wagons ought to be introduced.

All too often it is said that records cannot be taken through shortage of staff, lack of adequate communication facilities, or because guards have not the time. Hopes are expressed that ultimately an electronic device for lineside recording will eventually give us ideal records. But we have not got it yet.

New Building

When the wagon stock has been reduced to 750,000 there will almost certainly be a tendency towards more specialised construction—pallet vans, bulk vehicles, high-capacity steel wagons and preslo wagons are present examples. But special types cost more initially, incur higher maintenance costs, can take to themselves almost 100 per cent empty haulage, and ought to have a high degree of individual control. There should be endeavour to get traffic guarantees, in quantity and value, for a period which will make new construction justifiable.

Initiative should not be discouraged. Original regional thinking should be encouraged. Then, regional demands for special type wagons should be co-ordinated. It must not be overlooked that any departure from the usual and insistence on regional differences can mean that wagons almost come into the classification of being "privately owned." All over the country we can see wagons carrying lettering indicating the points to which they must be returned empty. The only good thing about this is that it should be easy to work out the empty mileage incurred to get the wagons back to their painted destinations. And this will give the costing people full opportunity more accurately to ensure that the flows of traffic, for which the wagons are being retained, bear the proper cost of empty haulage.

Peak Traffic

In the past, many trades and industries looked upon the railway wagon fleet as an inexhaustible and on-demand supply which could be used to cushion the effect of peak traffic. They had little regard to the sum total of the claims made on the stock; to the effect on availability for competing trades, and to the cost—not to the users, but to the railways. The view was, and in many cases still is, that "vessels must not be held up"; "pits must not stop"; "steel mills must keep rolling," and, let us admit it, there were, and still are, railwaymen who feel we have an obligation in these fields.

There have always been peaks. Many of them will always be with us. Some peaks are not necessarily immediately in the field of movement. Rather are they in the means of movement, i.e. the wagon. Examples are summer production in the coal industry; the import season for timber; the sugar beet campaign; or the wool season. These are examples of production, or arrivals, at levels in excess of current consumption and discharge capacity. So a buffer holding is needed. It is nearly always railway wagons. The peak holding of stock coal for the N.C.B. in 1959 was 47,000 wagons. The peak timber standage at Hull, admittedly mostly in dock use wagons, was 3,863 in the same year. The highest standage of sugar beet during the 1959-60 campaign was 4,026 wagons—admittedly on Christmas Eve, but on January 8 it was 2,998.

Movement Peaks

But there are other peaks, with the emphasis on movement rather than on buffer storage, such as movement of fertilisers during the period January to April; Scottish seed potato supply to England, with peak demands rising to 400 wagons per day; the seasonal crop of grain, fruit and vegetables, both at home and abroad; the "bull" weeks for coal, usually before Christmas and the New Year, and, talking of New Year, even the whisky movements from bond and blending centres.

Many peak demands arise in autumn, winter and early spring, when the weather conditions in the British Isles are not at their best, when the hours of daylight are short, when the incidence of holidays does not ease demands, and when the wagon turnaround and, therefore, availability, is below average. The number of wagons forwarded loaded during the months of October and November, and of February and March, is between 17 and 18 per cent higher than the dispatches during the summer months.

And what do all these peak demands mean? They cause immobilisation of wagons. They make increasing demands on motive power and men. They enhance empty movement, increase shunting costs, and affect line capacity. They create recording and documentary work and add more grey hairs to the operators. They even cause meetings. And all this used to be taken for granted, as being inevitable, as being a duty or obligation that the railways should meet and—in a great number of cases—as something which no one should pay extra for or, if they did, then the accounts must be subject to discussion, to rebate or to allowances. And all too often we acquiesced. No wonder we have seasonal difficulties with wagon stock. No wonder the receipts do not match peaks.

What To Do?

Do our road competitors supply thousands of lorries to be immobilised for indefinite periods? Do they indulge in excessive empty mileage and use of manpower to provide these mobile warehouses? Of course not—they have not enough equipment so to do and more sense than even to contemplate doing it. Only the railwayman, with his sometimes misguided, but let us admit it, often inherited, sense of service at all costs, leaps into the breach and loses money helping those who create the peaks and benefit financially from them.

What should be done about peak demands and their effect? Who should do it? Need they be so severe and so demanding? And have those who

create or can control them ever had cause to contemplate the effect of the railway saying "thank you very much but we are not interested"? Have they ever been presented with a factual bill of costs and asked to pay with an adequate margin of profit? Rarely, I think. It is high time we had some realistic thinking in these fields. And not only on direct costs, but also on what has been lost in other fields where peaks are not a feature but where the effect of their incidence has created an artificial shortage of wagons for non-peak traffics, caused diversion to other means of transport and worsened our commercial relations.

Why should not those who require buffer supplies of wagons before and after movement pay fully, not only for the days of storage, but also for the cost of maintaining margins which enable the buffer to be provided? Why should they not pay for the additional empty mileage? For the provision of otherwise unnecessary siding accommodation? For the "out of course" haulage pending dispatch or discharge? They might certainly shudder if they had to provide them themselves. Where dock-use or equivalent wagons are the medium of storage, it would be perfectly reasonable to relate their provision and the cost of storage and haulage to the subsequent movement to final destination. Far too many make use of our fixed and movable dock equipment and then have recourse to road transport for the more lucrative part of the movement. Approaches such as these must be linked to first-class costing studies. In these studies, the immediate and obvious must not only be measured, but, additionally, a serious attempt must be made to weigh the cost of preliminaries and consequences.

Unavoidable Peaks

Movement peaks associated with seasonal crops are in a different category. They can hardly be avoided. Where the size of the demand stems from the aggregate of the demands of many, it is difficult clearly to envisage any line of corrective or compensatory action. All the same, sensible charging following enlightened costing may ease the impacts and raise the profit margin. Where the movement peak arising from seasonal activity is the concern of single firms, as for example, the movement of fertiliser, and where it is clearly obvious that only a concern like the railway could adequately perform what is required—that is, to get the fertiliser to destination in sufficient time to ensure that it is on the land before a certain date—then it is not unreasonable to expect that preference in the allocation of traffic should be given to the concern which can perform what is required.

The fertiliser season is an outstanding example in this field. It makes great demands upon the covered wagon supply. It must get to destination—and there are thousands of destinations for this traffic—by a certain time of the year. There are firms who recognise the ability of the railway to meet this demand. They realise that for some five months of the year varying peaks have to be met. They assist with nominated loading, and preparation of trains, and, most important, they give us all the traffic within their direct control. There is no attempt to use us only for high peaks.

Sugar Beet

Sugar beet is another seasonal crop. It is normal practice for the beet factories to take in traffic by road six days per week and whilst rail traffic passes during the same period, it also seems to be the practice to accumulate stocks in wagons for discharge at nights and at weekends. If there were ever an example of the railway being used to fit a process, this is one. Wagons are immobilised at the time of the year when they are in the greatest demand. Often, mineral wagons are used which are needed at the collieries. Train loads are stored pending the factory being in a position to accept. Special working may be demanded at weekends. And all this to ensure that there is a buffer supply available to ensure that the campaign continues unbroken.

Movements such as this should be subjected to a special costing check and, if the recipients are not afterwards prepared to pay every penny that it costs, plus a profit, then it is open to suggestion that they might be told to use road for 100 per cent of the crop instead of roundly 84 per cent.

Accountability

Regions are not accountable to anyone except themselves in regard to the use to which they put available wagon stock. They can carry anything, at charges they deem fit, and make a demand upon the stock irrespective of the number and value of demands arising elsewhere. A district officer with too few wagons can decide which traffics, or what proportion thereof, he will not carry. He can only do this in his own district. A traffic manager, supervising two or three districts, can act similarly but, owing to the time lag, not so quickly and not with so good effect. Going a step higher, on to a regional basis, the difficulty becomes even greater. Beyond the regional basis, at B.T.C. headquarters, the position becomes almost impossible.

So, the question arises how can we weigh conflicting needs when the supply of wagons is not sufficient to meet all demands? Who is to determine from the cost and commercial interest angles what traffic should not move and what firms should go short? Can it be done, and if so, within what compass? Beyond certain levels and outside certain distances, it is thought that an equitable user of available stock in relation to traffic values would be almost impossible. But something will have to be done to relate diminishing stock of wagons to priority demands. Maybe the answer will lie in making the regions more accountable for the use of wagons. Up to now, any thoughts in this field may have been countered by observations that it is not possible to record the user. Hence one of the reasons for the effort made recently to find out exactly how many wagons were in the north-east. Would it be possible to debit the region with some figure of cost for the user of the stock recorded? Of course, I know all the answers, i.e. "some of the traffic was passing through"; "it neither originated nor terminated in the region" or "some of the wagons loaded by others were lightly loaded—if we had loaded them, we would have done better." Because it could not be done with great accuracy is no reason why it should be argued that it is impossible or unfair. Why should a region not pay a hire charge for wagons it uses just the same as it would if it hired a tank wagon?

Co-operating in the Crewe-Manchester Electrification,



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A typical signal location.

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* First portion of this abstract of a Railway Students Association paper appeared April 2. In Mr. Margot's absence through illness it was read by Mr. F. L. Hick.

ROAD VEHICLE INDUSTRY

Advanced Havoline Motor Oil

DESIGNED to meet the more-exacting conditions imposed on modern vehicle engines, Advanced Havoline motor oil has been introduced by Regent Oil Co., Limited. The new lubricant range is available in five viscosity grades from SAE 10W to SAE 50 and in two special multi-grades, SAE 10W-30 and SAE 20W-40. It is being marketed only in sealed cans from 1 pt. upwards for retail distribution and in 5-, 10- and 40-gal. drums for bulk users. Among advantages claimed

good cold flow; and superior ability to adhere to metal surfaces.

Modern Vehicle Service in Tottenham

BEHIND the perhaps justifiable ballyhoo of trumpet fanfare and gala opening of new premises before many distinguished guests, headed by Mr. John Hay, Parliamentary Secretary to the Minister of Transport, who performed the

with space for up to 80 cars and commercial vehicles, a spacious forecourt, offices, parts stores and a large workshop. Work is to start on a body-building and repair shop. Included in the comprehensive service facilities are Tecalemit lubrication equipment, a Crypton electronic engine tester, Dunlop optical alignment gauges, Lucas Beam-setter, Weaver washing plant, British Oxygen Gases oxy-acetylene plant and Skyhi vehicle lifts. Brown Brothers, Limited, advised on the choice of equipment and supplied much of it.

1960 Tungstone Manual

NOW available from Tungstone Products, Limited, St. Bride's House, 10 Salisbury Square, London, E.C.4, is the 1960 Tungstone Battery Manual, which gives details of new types of batteries of recent introduction and up-to-date replacement tables embracing 1960 vehicles. The price list indicates recent reductions in price made by the company of its Tungstone range, car sizes of which are now guaranteed unconditionally for two years.

Dagenham Fords Help Build Swedish Road

WORK on the difficult 8½-mile section of new road between Akarp and Borgeby, in Sweden, which will in due course form part of the projected Gothenburg to Malmö Motorway, is employing a fleet of Dagenham-built Thames Trader lorries and a Fordson tractor. Work started on the section in November, 1958, and time for completion is estimated at three years, by which time about 1.3 million cu. yd. of earth will have been moved by the Traders. Our illustration shows some of the vehicles at work on the project.

Repcro Camshaft Grinder

CLAIMED to be the first such machine to have been offered outside America, a new camshaft grinding machine developed specifically for use in engine reconditioning establishments has been introduced by Repcro, Limited, the Australian automotive parts company, which has a London office at Dundas House, 59 St. James's Street, S.W.1. The Repcro machine is said to be a versa-

tile heavy-duty machine capable of handling camshafts from 3 in. to 65 in. in length, with a maximum work swing of 7½ in. and cam lift of ½ in. The rocking table can be retracted and locked for cylindrical grinding, which also permits main-journal grinding of a wide range of crankshafts.

Self-Contained Cable-Drum Transport

CONCESSIONAIRE for Marrel Hydro equipment in the United Kingdom, Aero Maintenance Equipment, Limited, has recently supplied a self-contained unit for carrying and handling heavy cable drums to Hellenic Communications, Athens. It comprises a Marrel multi-crane unit mounted on a two-axle Guy



A few of the 14 Thames Traders and a Fordson tractor at work on the 8½-mile Akarp-Borgeby section of the projected Gothenburg-Malmö Expressway in Sweden

for Advanced Havoline are new oxidation inhibitors to prevent sludge formation; highest extreme pressure additives to ensure full lubrication of heavily loaded parts at high temperature; highest detergency level to prevent carbon build-up; powerful alkaline additives to prevent acid corrosion of engine parts; high viscosity index providing

opening ceremony through metal tape with an oxy-acetylene cutter, lies the praiseworthy endeavour of Marston Motor Co., Limited, to provide up-to-the-minute service facilities for cars and commercial vehicles in the Tottenham area of London. The new Marston premises, fronting Seven Sisters Road, comprises an 8,000-sq. ft. showroom,



Aero Maintenance Equipment Marrel multi-crane unit for cable-drum transport on Guy Invincible chassis

chassis and is designed to handle drums up to 8 ft. 6 in. in dia. and 5 ft. wide weighing up to 3½ tons in one lift. The built-in lifting gear is controlled from the driver's cab and permits accurate positioning of off-loaded drums; it can also be used for loading and unloading a trailer, which the vehicle is equipped to draw and which provides a total combined payload capacity of 14 tons. The vehicle is also equipped with a 5-ton winch used for drawing cables through conduits or trenches.

Cobex Rigid Vinyl Sheet

COBEX rigid vinyl sheet, manufactured by BX Plastics, Limited, has been used extensively for the interior roof panelling of coaches and buses. It is claimed to be rustproof, non-corrodible, light in weight, easy to clean and non-inflammable,



Musical Omnivan: Novel use of an Austin 152 by Temple Wright, Limited, comprises demonstration of Wurlitzer pipe organs for the home. In the demonstrations one unit is carried and there is comfortable accommodation for an audience of four; load for delivery purposes is four organs

and is available in a wide range of opaque or transparent colours and with either polished or matt finishes. Cobex is unique in that it requires only to be wiped over with a damp cloth and maintenance is thereby reduced to the minimum. Self-supporting and non-warping, it is easily fixed to wood or metal framework and can be economically formed to any shape.

Transistorised P.A. Equipment

VALVES, vibrators and rotary components, most-common subjects of failure, are eliminated in a transistorised speech amplifier equipment developed by W. S. Electronics, Limited, Brunel Road, London, W.3, for use in motor-coaches. The unit is powered directly from the vehicle battery and is said to have a loading of only 1½ amp. Since it requires no warming-up period, it can be switched off when not in use and is ready for immediate service when switched on. Measuring only 6½ in. by 4 in. by 4 in., the unit has an output of 10 watts.

Noral Wall Charts

LIGHT-ALLOY sections and castings available for commercial vehicle bodybuilding are illustrated in wall charts published by Northern Aluminium Co., Limited. The Noral wall charts, which are in two 30 in. by 40 in. sheets, are designed to provide the vehicle bodybuilder with a ready reference to the wide range of extruded light-alloy sections produced by the company for this particular field. Dimensioned silhouettes, half actual size, are shown of some 180 sections and tabulated details are given of a large number of standard sections such as top hats, channels, angles and zeds. In addition to information on weight and relative cost, values of section moments of inertia and moduli are provided, where appropriate, in order to simplify design work. The charts are likely to prove of great value in enabling quick and easy selection of materials.

"This 'DPA' Distributor type Fuel Injection Pump

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MERSEYSIDE PARCELS DEPOT

Impressive Addition to B.R.S. Network

FLOOR-LEVEL PALLETISATION HANDLES EVERYTHING

WITH the recent completion of its new parcels depot at Townsend Lane, about 2½ miles from the centre of Liverpool, British Road Services has modern depots for both parcels and general haulage in the city. Townsend Lane depot replaces the former Carter Paterson depot at 254 Great Howard Street, the former Bouts-Tillotson depot at Vulcan Street, a former railway yard at Lightbody Street converted by B.R.S. to house other acquired parcels operators, and a shipping traffic depot across the Mersey in Seacombe to deal with consignments for Birkenhead Docks.

It covers an area of 7½ acres, formerly part of a railway goods yard, and consists of a transit

shed, with rail sidings, warehouse, service station and three-storey office block with 11,250 sq. ft. of floor area. There was a formal opening of the depot last week by Major-General G. N. Russell, former chairman of B.R.S. and now chairman of the road haulage sub-committee of the B.T.C., in the presence of Mr. T. G. Gibb, his successor as chairman of B.R.S., members of its board of management, and Mr. W. E. Macve, North Western divisional manager of the undertaking.

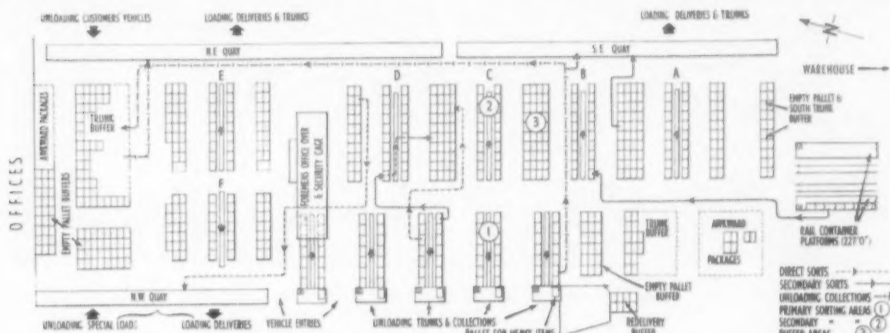
Refinement of Handling System

Liverpool now has the latest example of the "off-the-floor" mechanised handling technique which B.R.S. has evolved and in which, as is now generally known, the processes of sorting and holding packages is carried out on the ground. Townsend Lane sees the system with its newest refinements; instead of the normal loading platform

sheds, with rail sidings, warehouse, service station and three-storey office block with 11,250 sq. ft. of floor area. There was a formal opening of the depot last week by Major-General G. N. Russell, former chairman of B.R.S. and now chairman of the road haulage sub-committee of the B.T.C., in the presence of Mr. T. G. Gibb, his successor as chairman of B.R.S., members of its board of management, and Mr. W. E. Macve, North Western divisional manager of the undertaking.

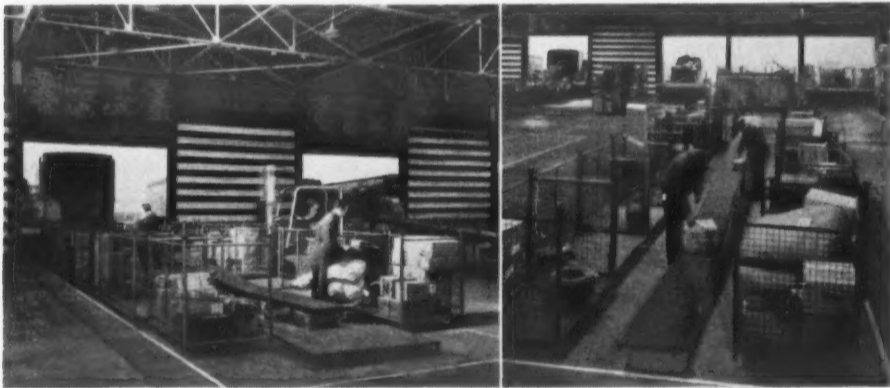
Railway Containers

Two railway platforms, each 227 ft. long, are provided at the south end of the shed for the unloading and loading of rail vehicles. At present one of these is temporarily employed for the handling of shipping traffic. Rail vehicles are unloaded by a similar crew of three. Instead, however, of gravity rollers, two mobile conveyor belts are provided for each platform. These unloading machines run on tracks parallel with the railway lines so that they can be placed against any vehicle which is to be unloaded. A row of pallets is positioned on the platform on the side of the unloading machine opposite to the rail vehicles. The goods are given a primary sort into these pallets in the



In this diagram of pallet areas in the new B.R.S. parcels transit shed the roller conveyors in primary and secondary sorting areas are arrowed

Indicated are typical paths for consignments: (a) inwards from trunk vehicle via primary and secondary sorting areas and holding buffer, thence to delivery vehicle; (b) outwards from collection vehicle to trunk vehicle or trunk buffer



Unloading a trunk vehicle—this primary sort is directly to eight outward routes or to six secondary sorting areas, one of which is seen right. Here the rough sorted consignments are finally sorted to outward routes

there are loading and unloading quays, reduced in width to 12 ft. and limited to the processes of transferring packages between vehicle and sorting conveyor (in the inwards direction) or between pallet and vehicle (outwards). Although termed a "parcels" branch, Townsend Lane handles "smalls," i.e. consignments up to 1 ton in weight, as an integral part of its function.

Within the shed every item, large or small, is capable of being moved on pallets; the objective has been to introduce into parcels unloading, sorting and reloading, methods as near as possible to those employed in factories and assembly lines. At Townsend Lane, therefore, as far as practicable, the work is brought to the sorters and loaders, each of whom has a defined work area. Traffic is moved through the various stages of sorting and redelivering on standard B.R.S. 40 in. by 60 in. box or flat pallets which are carried by 2-ton diesel fork trucks. Movement of personnel in the depot is, in general, confined to these fork truck drivers and the supervisory staff. In orthodox depots, on the other hand, a large proportion of the staff move around the depot with the traffic. In practice the efficiency of the new system depends primarily upon the close supervision of trained foremen. All staff at the depot trained with "dummy runs."

Transit Shed Area

The transit shed at Townsend Lane comprises a steel-framed building with asbestos roof and ample roof lighting. There is a 600-ft. run of roller shuttered loading bays, with two loading quays to the railway sidings each about 230 ft. long which run into the main shed. These platforms incorporate travelling conveyors. The entire floor area is of reinforced concrete paving finished with a granolithic surface. The centre of control is an office which is located transversely overhead on pillars at a point about midway along the length of the shed. The transit shed is 650 ft. long and has a 140-ft. clear span.

The fleet attached to this depot totals some 130 vehicles, of which about two-thirds are articulated, working with some 220 semi-trailers. This total, however, includes both trunk and local collection and delivery units. There are about 65 delivery rounds served by 80 c. and d. vehicles, many of them Scammell Scarab articulated flats or boxvans. The delivery area extends from Southport to Wigan, Warrington, Chester, Wrexham and the difficult North Wales coast area as far as Llandudno. Thirty-one trunk services, operated by an average of 36 vehicles, run into the depot.

Incoming traffic from trunk road vehicles, also local collections, are for the most part first sorted

by unloading down one of five parallel trains of roller conveyors on the west side of the shed. On either side of the roller conveyor are placed pallets which correspond either to a direct outward route (e.g. a trunk transshipment) on which the traffic is to be reloaded, or to a secondary sorting area. Each roller train is manned by a crew of three, consisting of an unloader and two primary sorters. (The accompanying diagram illustrates typical movements.) The unloader places the packages on one conveyor and the sorters—each working on one side of the conveyor—transfer the packages into the appropriate pallets. Sufficient pallets are provided for 14 sorts at this stage, with additional

When the outward vehicle is not available for loading, pallets are stored in one of a series of buffers. The fork-lift truck is a Coventry Climax diesel

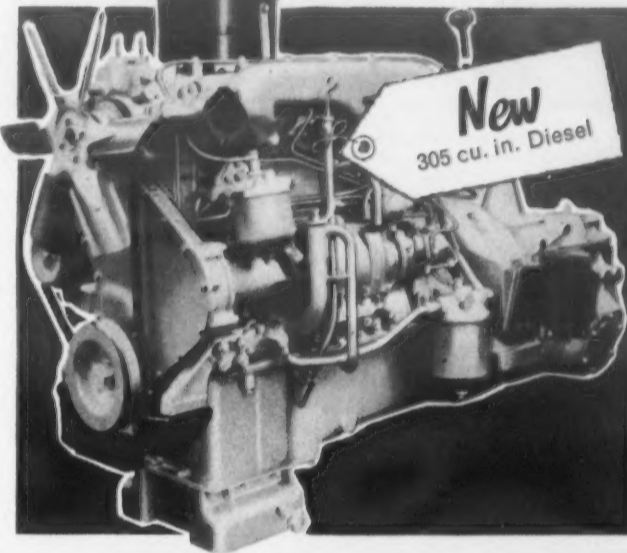


This 110 b.h.p. unit is the mightiest diesel ever to power a Dodge. It is now available in Forward Control 7-ton haul carriers and Tractor models.

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A Dodge is job-rated for the task it has to perform. That is why you get the choice of six husky power units from 192 to 375 cu. in. capacity. Each is designed to provide in abundance today's three most wanted qualities—efficiency, economy and endurance. And with the right capacity engine comes the right type of transmission. There are four sizes of clutch and three different gearboxes—one four-speed, two five-speed. Whatever you haul, wherever you haul, Dodge power keeps big loads moving on schedule with satisfying economy and dependability.



For Dodge 5 and 6-ton models this new 89 b.h.p. diesel brings more power. Distributor type fuel pump and chrome surfaced cylinder liners are among its outstanding features.

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Firestone TYRES — consistently good

(Continued on page 14)

Merseyside Parcels Depot

(Continued from page 13)

areas is sufficient to buffer approximately a complete vehicle load of delivery traffic (up to eight pallets) for each route. In view of the much larger vehicles used for long-distance services, outwards trunk traffic which has been sorted for destination and for which a vehicle is not immediately available for loading, is buffered in special trunk buffers at the north and south ends of the depot.

Bulky and heavy articles (5 per cent of the whole) are segregated from normal traffic at the unloading point. A supply of flat steel pallets is provided for this purpose since the items cannot be handled on the roller conveyors. They will usually be held on the pallets in concentration areas at the north and south ends of the depot. An 8-ton fork truck is

pallet areas. It is thus unnecessary to label or mark any pallets. Traffic to be trunked outwards is identified by reference to the destination terminal.

The mechanical handling equipment includes eight Coventry Climax 2-ton diesel fork trucks, two Yale 2,000-lb. pallet stackers (for the warehouse), eight Rolatrac hand pallet trucks, a Shelvoke and Drewry 8-ton diesel fork truck, Rowson roller conveyors and wagon unloading machines, and a David Brown 900 turbo diesel shunting tractor for rail wagon movements. The pallet pool comprises 1,000 40 in. by 60 in. box pallets, 200 gondola pallets and 600 40 in. by 48 in. wooden pallets.

In the 9,500 sq. ft. warehouse, located to the south-east of the transit shed, goods are handled

185 amp.-hr. battery capacity is provided. A 35-gal. fuel tank is fitted to the offside.

Windows and ventilators include 19 Widney Famco twin-sliding lights fitted to the top half of each main window and three Auster double deflector ventilators at the front, two in the upper saloon and one in the lower, at the nearside. The driver's screen is a fixed one-piece unit with demisting equipment. In both saloons Accles and Pollock tubular seat frames are employed. The 40 seats are trimmed with Vynide in the upper saloon and for the 32 in the lower saloon moquette in an attractive red version of the B.M.M.O. pattern is used. Dunlopillo cushion filling is employed and all the seats look attractive and, indeed, are very com-

by double jackknife Deans doors, controlled electrically (C.A.V. system) by the driver. The flooring is of $\frac{1}{2}$ -in. plywood lined with either Treadmaster cork-rubber compound or with lino and wooden slats. The conductor's locker and ticket machine compartments are placed under the stairs above the luggage space at the rear of the vehicle.

Cab Layout

A cantilever-type driver's seat, adjustable both vertically and horizontally, is provided. The driver's cab is well designed for his comfort. There is a hinged door and a roller blind behind the driver for night driving. Cab heating is provided. An improved emergency window on the nearside over



Rowson mobile unloading conveyor in use on the rail container quay; right, Shelvoke and Drewry 8-ton fork lift with searcher jib removing a distinctly awkward "small" consignment from trunk vehicle. The truck will also transfer containers

employed for the handling of heavy items and rail containers.

Outward traffic is loaded on to the appropriate vehicles at one of three loading quays at the north-west, north-east and south-east points of the depot respectively. These quays are 12 ft. wide to allow for pallets to be placed on the nearside by fork trucks and provide a working space for the loading gangs of two men. Fork trucks maintain two loaded pallets at the rear of each vehicle being worked at the time. A loading gang normally works on a group of four vehicles together so that loading should not be held up by uneven surges of traffic for one particular route. Pallets are drawn by the fork trucks from the unloading points (in the case of direct sorts), the secondary sorting area buffers or the trunk buffers, depending on circumstances. Certain traffic is also drawn from time to time from the adjacent warehouse.

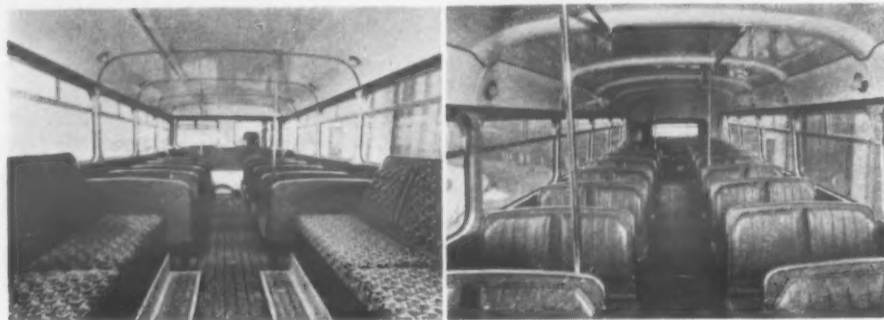
Traffic

Traffic for delivery within the Liverpool delivery area is routed through the depot by means of a system of letters and numbers, the letters A-F denoting the secondary sorting area, the number corresponding to a delivery round. This information is displayed on boards at strategic points and repeated at the requisite point on the floor of the

and stored temporarily on 40 in. by 48 in. wooden pallets. To obtain eventually the maximum holding in this warehouse by the use of narrow aisles, two electric pallet stackers are used in preference to fork trucks. After less than two months' operation, the depot has not yet had time to settle down to the smooth working of all the various processes in a completely new mechanised system. It was subjected to a unique test right at the outset when the threat of a railway strike due a week after the depot opened (on February 8) caused advance transfer of rail traffic and there was a threat of severe congestion. The orderly system of palletisation stood up well to this unexpected and premature pressure.

Daily traffic so far averages 20,000 packages; the capacity of the depot is stated to be 30,000 packages. The total handling force of 110, distributed in equal number among two shifts, should be slightly in excess of requirements once the proper rhythm of working is achieved. Shift changeover times are 7.30 a.m. and 7.30 p.m.; the day shift first unloads trunk vehicles, which task occupies it until early afternoon, then unloads collections as they come in. The night shift continues this work from 7.30 p.m., at the same time loading trunk vehicles away—the last of these does not leave

(Continued at foot of next column)



Interior of B.M.M.O. D9 lower saloon; there are longitudinal seats at front and rear over wheel arches; right, upper deck looking towards back

fortable for a service bus, through provision of individual seat squabs.

Smiths R550 units, one fitted in the upper saloon and two on the lower deck, cover heating requirements. The rear platform and entrance is protected

(Continued from previous column)

until about 1 a.m. After this, the task is to load delivery vehicles ready for an 8 a.m. run out.

Two round trips nightly (i.e., four semi-trailer loads) are run by the vehicles connecting Liverpool with Manchester, Preston and Blackburn and one round trip nightly is run to Leeds, Bradford, Huddersfield, Sheffield, Birmingham and Willenhall. A feature of B.R.S. parcels organisation is, of course, the number of direct connections made between centres thereby eliminating transshipment at intermediate points. Because of this policy one semi-trailer is usually sufficient to maintain the service in each direction. A beneficial effect of the faster road schedules now in force is that a later start, or alternatively an earlier arrival, at a depot is possible, as much as 2 to 3 hours being cut off the journey in certain cases. This gives the depot staff more time to load or unload vehicles, as the case may be, and in consequence the forwarding and delivery of traffic may well be accelerated. All these measures combine to give Liverpool the most modern and efficient parcels service at present enjoyed anywhere in the country.

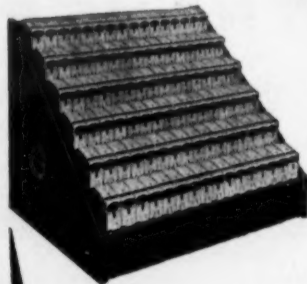
the engine bonnet can be opened fully to aid ventilation on really hot summer days: the usual adjustable ventilator and signalling sliding panels are provided. The Pneumo-Cyclic gearbox control is mounted on an inclined panel over the engine adjacent to the driver's left hand. Lighting, heating and wiper switches are at the rear of the driver's door. There is an emergency door on the back platform and there are emergency windows at the rear of the upper saloon and at the front offside of the lower saloon. The standard Midland "Red" paint finish is used outside, but Vynide, Filon (sheet fibreglass) and Formica figure in the easily cleaned and maintained interior.

This 30 ft. by 8 ft. double-decker weighs 7 tons 18 cwt. 2 qr. unladen. Other dimensions are front track at hub centre, 6 ft. 11 $\frac{1}{2}$ in.; mid-track at rear, 6 ft. 1 $\frac{1}{2}$ in.; wheelbase, 17 ft. 1 $\frac{1}{2}$ in.; front overhang, 4 ft. 5 $\frac{1}{2}$ in.; rear overhang, 8 ft. 3 $\frac{1}{2}$ in. It is over 21 years since M.C.W. built a large batch of chassisless double-deck trolleybuses for London Transport, vehicles which are only just being withdrawn from service; there seems no reason why the 195 B.M.M.O. D9 type double-deck diesel-engined integral buses should not emulate that long and satisfactory record. We are indebted to the courtesy of Mr. Donald M. Sinclair, general manager, Birmingham and Midland Motor Omnibus Co., Limited, and Mr. E. C. Tuff, chief engineer, for the opportunity of inspecting vehicles under construction and on the road.

SPEEDIEST FARE COLLECTION with BELL PUNCH

FARE COLLECTION SYSTEMS

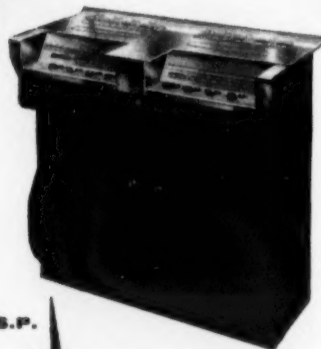
Speed, ease, accuracy—these are the qualities everywhere associated with BELL PUNCH machines, four of which are shown here.



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SOCIAL AND PERSONAL

B.T.C. Advisory Body

ON Wednesday of this week it was announced that the task of the advisory body to investigate the structure of the British Transport Commission is to examine the structure, finances and working of the organisations controlled by the B.T.C. and to advise the Minister and the B.T.C. how effect can best be given to Government intentions, as outlined by the Prime Minister. The chairman is Sir Ivan Stedeford, chairman and managing director of Tube Investments, Limited; other members are Mr. C. F. Kearton, joint managing director, Courtaulds, Limited, Dr. R. Beeching, technical director, Imperial Chemical Industries, Limited, and Mr. H. A. Benson, partner in Cooper Brothers, chartered accountants. The Treasury and the Ministry of Transport will also be represented.

Mr. R. L. Charlesworth, O.B.E., M.A., A.M.Inst.T., named as commercial officer of the Western Region, B.R., was educated at Winchester and Hertford College, Oxford, joining the London Midland and Scottish Railway as a traffic apprentice in 1933. He was commissioned in the Royal Engineers in January, 1940, and served in France with 153 Railway Operating Company, following which he spent 2½ years in the Middle East, being mentioned in dispatches for service in the Western Desert. In 1943 he was appointed D.A.D.Tn., 21 Army Group, and subsequently served in France,



Mr. R. L. Charlesworth

Holland and Germany, being promoted A.D.Tn. He was awarded the O.B.E. for services in North West Europe. In 1946 Mr. Charlesworth became assistant district goods and passenger manager, Bristol, L.M.S.R., and in 1947 steamship superintendent, Belfast. He became a traffic costing officer at B.T.C. headquarters in 1951 and was subsequently appointed principal traffic costing officer, Paddington. In 1957 he became assistant to the general manager, Western Region, which post he now relinquishes upon taking up his new appointment. In 1955 Mr. Charlesworth was a member of the team of British Transport Commission officers who went to Ceylon for two months to advise on the Ceylon Government Railway.

On April 5 Mr. G. F. Craven, formerly general manager of Halifax Corporation Transport, celebrated his golden wedding.

The next production of the Southern Railway Dramatic Society will mark its 21st anniversary. The cast of the play selected, J. B. Priestley's *When We Are Married*, will include some of the society's founder members. The performance will be at the Scala Theatre on April 20 at 7 p.m. and tickets may be obtained from Mr. E. H. Simons, establishment and staff office, Southern Region, 39 Craven Street, W.C.2.

As previously recorded, Mr. H. R. Gomersall has been made regional planning officer, Eastern Region, B.R. Mr. Gomersall joined the London and North Eastern Railway in 1936 and was trained as a mechanical and electrical engineer in Doncaster locomotive works and at Doncaster technical college. He entered the locomotive running department at Colchester in 1945 and was appointed locomotive shedmaster in turn at Melton Constable, Cambridge and Grantham. In 1949 he went to Eastern Region headquarters as assistant to motive power superintendent and in 1953, became district motive power superintendent, Peterborough. In 1955, shortly after the modernisation plan was initiated he was appointed planning assistant to the general manager, Eastern Region, and, following the establishment of a regional planning office, became planning officer (reconstruction) in January, 1957.

Sir Henry Spurrier, in his capacity as chairman of Albion Motors, Limited, recently presented long-service certificates to 44 Albion employees with 25 years' service. They included two ladies.

Mr. C. B. Duncan has been appointed assistant to the general manager of the Union Cartage Co., Limited. He was previously with British Oxygen Gases, Limited, in its transport department.

Believed to have designed more bus stations and depots than any other architect in Britain, Mr. C. D. Quinn, J.P., L.R.I.B.A., architect to Ribble Motor Services, Limited, for 33 years, retired at the end of March. He will be succeeded by Mr. A. B. Dodd, A.R.I.B.A., who joined the architects department in 1937. One of Mr. Quinn's most complex projects—the designing of a double-deck bus and coach station at Liverpool, now nearing completion—came towards the end of his career. The blueprint for Coliseum coach station at Blackpool was drawn up by Mr. Quinn, who also planned the conversion of Lord Street railway station, Southport, into a bus and coach station.

C.A.V. Conference

A FULL day of business sessions, extending from 9.30 a.m. until about 6.30 p.m., and a most enjoyable dinner and entertainment in the evening comprised the conference organised by C.A.V., Limited, at Eastbourne on March 29 for its southern areas agents. Details of business tackled appear on page 1. Presiding at dinner, Mr. H. G. Mason, director and joint general manager of C.A.V., Limited, welcomed the guests and mentioned particularly Mr. L. H. Cannon, Eastbourne Corporation transport manager, and Mr. A. S. Woodgate, general manager of Southdown. He also thanked Mr. Arthur Twiddle for pointing out in accepting his invitation to dinner that this was a jubilee occasion, the B.E.T. group having placed its first order for electric lighting equipment for 33 new Daimler buses with C. A. Vandervell just 50 years ago. Replying for the guests, Mr. Cannon took justifiable pride in the fact that Eastbourne was the first municipality in the country, perhaps in the world, to obtain statutory powers to operate its own motor buses.

Mr. S. Ridgway, A.M.I.Mech.E., M.I.Loco.E., has been appointed locomotive works manager, Swindon, Western Region, B.R.

We regret to record the death of Mr. R. O. Allston, joint general manager of the Ever Ready Co. (Great Britain), Limited, at the age of 63.

Mr. I. G. Carson has been appointed assistant to the general manager (works), and Mr. H. C. B. Hill assistant (traffic planning), general manager's office, Western Region, B.R.

Mr. C. R. May has resigned his appointment as area medical officer, Manchester, London Midland Region, on appointment to the post of medical officer of the Simon Engineering Group and Simon Carves, Limited.

Mr. H. Baker has been made chairman and a managing director of John Baker and Bessemer, Limited, Rotherham, and Messrs. F. Betts and James Fouldes have joined the board. These appointments arise out of the retirement from the chair of Mr. S. E. Baker and from the board of Mr. W. Allen.

It has been announced that the opening paper at the Institute of Transport Congress in London on April 27 will be "The State and Transport Economics" by Sir Gilmour Jenkins, K.C.B., K.B.E., M.C., lately Permanent Secretary, Ministry of Transport and Civil Aviation, and a past president. This will replace the paper originally to have been presented by Sir Brian Robertson.

Mr. M. S. Crosthwaite is relinquishing his appointment as managing director of Hardy Spicer, Limited, to become technical director of the company, with the additional responsibility of advising the parent Birfield Group on the design and development of transmission equipment. Mr. K. W. Evans is to become managing director of Hardy Spicer from May 1.

British Transport Docks announces the appointment of Mr. S. Johnson, A.C.A., M.Inst.T., as assistant chief docks manager, Hull. From 1939 he served with the Singapore Harbour Board, in 1952 onwards as assistant general manager. In January, 1958, he was appointed acting general manager to the Board and in October of that year he became chairman and general manager.

A symposium on the use of aluminium in railway rolling stock is to be held jointly by the Institution of Locomotive Engineers and the Aluminium Development Association on Friday, May 27, at the Institution of Mechanical Engineers, 1 Birdcage Walk, London, S.W.1. The symposium will be opened by Mr. R. A. Smeddle, president of the Institution, and a programme of 18 short papers on design and construction, and operation and service experience at home and overseas with this metal has been arranged.

Mr. M. H. Harbinson, who has been appointed planning officer (electrification and general), Eastern Region, B.R., located at Liverpool Street, entered the service of the London and North Eastern Railway in 1946 after war service in the Royal Artillery. Selected as a traffic apprentice, he trained in the commercial, operating, locomotive running and docks departments. He was subsequently chief trains clerk and chief controller, Lincoln, and in January, 1951, was appointed assistant to the district operating superintendent, Manchester (Eastern operating area). Mr. Harbinson later moved to the general manager's office at Liverpool Street as assistant (works section), and in 1955 became deputy trains assistant to the chief operating superintendent. In the autumn of 1956, he was seconded for special duties in connection with the formation of the new traffic organisation in the Eastern Region, in which he was appointed passenger assistant at regional traffic headquarters, Liverpool Street, in 1957. It is this post he now vacates.

Mr. L. D. Johnson has been appointed assistant district commercial superintendent (sales), and Mr. R. W. Saunders assistant district commercial superintendent (general), at Middlesbrough, North Eastern Region, B.R.

For his work on the improvement of traffic light systems in their use on high-speed roads and at roundabouts, Dr. F. V. Webster has been awarded the Wolfe prize, worth £500, for 1959, the Department of Scientific and Industrial Research announces. This award is being made annually for 10 years under the terms of a bequest to the D.S.I.R. research worker who makes an outstanding contribution to the department's research work. The department states that as a result of recent research into traffic light operation at road junctions carried out by the laboratory, fewer traffic delays, promising considerable savings in time and money, can be expected. Already some of the results—based on a study of new methods of traffic signal time-setting—are being used at busy road junctions, easing the flow of traffic at peak periods.

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MODERN TRANSPORT

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IMPORTANT CONTRACTS

Ben Line Orders British Again

IN spite of reports on the advantages of ordering from foreign shipyards, the Ben Line Steamers, Limited, has never had a ship built outside the United Kingdom and its latest order, placed last week, for a fast diesel cargo-passenger liner has again gone to Charles Connell and Co., Limited, Scotstoun. It will be the 11th of 13 built for the Ben Line since the war to be ordered from this builder, and the third of one class, with *Benloyal*, now in service and one of the most powerful merchant ships afloat, and a second at present under construction in Connell's yard, with slight modifications, to the same specification. The Ben Line has never before ordered a diesel-powered vessel but this departure from turbine machinery is due to recent improvements in diesel design and not to any dissatisfaction with existing turbine-driven vessels. The new ship will have a deadweight of approximately 13,250 tons and a capacity of about 675,000 cu. ft. She will be powered by a 10-cylinder Sulzer turbocharged diesel built by David Rowan and Co., Limited, Glasgow, which will develop 13,500 b.h.p. to give a service speed of over 19 knots.

M.C.A. Orders Colour Television

E.M.I. Electronics, Limited, has received an order from the Ministry of Civil Aviation for a closed-circuit colour television equipment. The purpose for which it will be used is not disclosed, but delivery is scheduled for July.

Development Dynamometer For B.C.V.

Bristol Commercial Vehicles, Limited, has placed an order with Heenan and Froude, Limited, for a Heenan electric dynamometer for use in the company's experimental department with single-cylinder development diesel engines. The new machine, Type Y8, is capable of absorbing and measuring with great accuracy up to 25 b.h.p. at speeds of up to 2,000 r.p.m.

Leyland Diesel Contract

A large diesel engine conversion scheme is shortly to be undertaken in the Middle East, where 750 American petrol-engined vehicles are to be fitted with Leyland diesel engines at a cost around £800,000. A contract has already been placed with Leyland Motors, Limited, for 375 O600 125-h.p. and 375 150-h.p. O680 diesels for installation in American six-wheeled trucks of up to 20 tons capacity. The Leyland engines will be "tailored" in Britain for easy fitment; modifications will be made to cooling system connections, flywheels, rear banjo members and manifolds to suit this particular application.

Marconi Agreement with Indian Government

An agreement has been signed in New Delhi between the Indian Government and Marconi's Wireless Telegraph Co., Limited, for co-operation in the local manufacture under licence of equipment of Marconi design. The agreement, which provides also for technical assistance and the supply of materials and components, will form the basis for Indian manufacture of equipment in the aeronautical radio, sound and television broadcasting, communications and radar fields. The range of

aeronautical radio equipment has particular application to the Avro 748 transport aircraft, which is being produced at Kanpur.

Scottish Region Contracts

The following contracts have been placed by the Scottish Region of British Railways:
The Motherwell Bridge and Engineering Co., Limited, Motherwell, for renewal of steel superstructure of bridge at Brooms Road, Dumfries.
The Lanarkshire Welding Co., Limited, Wishaw, for strengthening of the steel trough deck of Burntisland Viaduct.
James Young (Contractors), Limited, Glasgow, for reconstruction and widening of bridge at Cardross Mains Farm, between Dalbreoch and Renton.

Southern Region Contracts

The Southern Region of British Railways has placed the following contracts:
C. Jenner and Son, Limited, Folkestone, for carriage servicing stages (extension of electrification) at Folkestone Junction.
John Laing and Son, Limited, London, N.W.7, for construction of luggage bridge at Folkestone Junction.
The Cleveland Bridge and Engineering Co., Limited, London, S.W.1, for reconstruction of Plough Road bridge, Clapham Junction.
The Demolition and Construction Co., Limited, London, S.W.1, for construction of platforms and new approach road at the new Hurst Green Station.

Fairley Aerial Survey Contract

The Air Ministry has placed a contract with Fairley Air Surveys, Limited, for a survey of the aerodrome at Upper Heyford, which is at present operated by the United States Air Force. It entails aerial photography at a height of 3,000 ft. and the revision of detail and contours on existing 25 in. to one mile plans. The area containing administrative buildings is to be enlarged to the scale of 104 in. to one mile. New plans are to be provided of the whole aerodrome to a scale of 1,000 ft. to 1 in.

North Eastern Region Contracts

The North Eastern Region of British Railways has placed the following contracts:
John Barnsley and Sons, Limited, Dudley, for two 20-ton overhead travelling cranes at Walker Gate works.
Metropolitan-Vickers G.R.S., Limited, London, for wagon retarders, power point and signalling in Dringhouses up yard, York.
Intermit, Limited, Birmingham, for a filter cleaner and oiler unit for York motive power depot.
The Kingsbury Concrete Co., Limited, Doncaster, for precast concrete units for a bridge at Gateshead.
Tanslag, Ltd., Stockton-on-Tees, for precast columns and foundations for footbridges at Newport new marshalling yard.
The Hunslet Engine Co., Limited, Leeds, for a prototype rail broaching machine for the chief civil engineer's department at York.

West Indies Lighthouse Contract

Stone-Chance, Limited, has been awarded a Trinity House contract to replace the existing tower and light of the Sombrero lighthouse in the Virgin Islands group of the West Indies. The contract, valued at about £100,000, entails a new revolving optical apparatus, lantern and 125-ft. aluminium-metallised steel tower of hurricane-proof design. Through its associate in the West Indies, Stone-Chance is also carrying out the civil engineering works involving foundations and reconstruction in reinforced concrete and the dismantling of the existing tower. Sombrero, which is one of 10 lighthouses maintained by the Ministry of Transport, is operated by the St. Kitts Government.

SHIPPING AND SHIPBUILDING

New-Style Passenger Ticket

WHAT is described as the first passenger ticket of its type for a steamship company has been brought into use by Canadian Pacific, for its Atlantic service. It is small and considerably more compact than the traditional ticket of steamship lines, and compares well with international air ticket design. The change has been made primarily to assist the travel agent's staff in the booking of steamship passengers by providing an attractive easy-to-issue ticket with carbon backed coupons. The convenient shape of the ticket, for pocket or handbag, will appeal to passengers. This is a first step in a policy to rationalise and simplify booking procedure and assist the agent in selling liner services. The ticket consists of four detachable coupons inside the covers—one for travel agent's record, one for the company's advice, one for embarkation purposes, and one passage coupon. The inside of the back cover, a duplicate copy ocean ticket, becomes a record coupon for retention by the passenger.

Yard Acquired by London Group

ONE of the Clyde yards, the Blythswood Shipbuilding Co., Limited, has been acquired by an industrial investment company in London, Norcross, Limited, which has hitherto had no interests in the shipping or shipbuilding world. The consideration is £1,650,000. Blythswood has maintained a good output during recent years of cargo tonnage, including tankers and ore carriers. A modernisation scheme now in train will enable it to turn out ships of up to 40,000 tons.

Southampton and Nuclear Ships

IN view of the possibility that the nuclear-powered U.S. ship *Savannah* may wish to visit the port late this year or early in 1961, Southampton Harbour Board is considering plans for the future reception in the port of nuclear-powered ships. A special port safety panel may be set up to deal with ships of this type. Preliminary discussions have already taken place, at which the harbour master (Capt. J. Andrew) suggested that the Board might wish to find out whether the U.S. *Savannah* was likely to call at Southampton.

New Shaw Savill Liner

THE name to be given to the new Shaw Savill 22,000-ton passenger liner, for which an order was placed with Vickers-Armstrongs (Shipbuilders), Limited, in December last, is to be *Northern Star*, it is announced. With an available speed of 21 knots from her 22,000-h.p. engines she will, in partnership with the *Southern Cross*, maintain a regular integrated round-the-world service, westbound via Panama and the Pacific islands of Tahiti and Fiji, and eastbound via Las Palmas and South Africa, thus providing regular opportunities for the would-be holiday voyager, whether his journey starts in Britain, South Africa, Australia or New Zealand. Public rooms will provide nearly 40,000 sq. ft. of floor space for her 1,400 one-class passengers. These public rooms will include a tavern, which has proved popular in the *Southern Cross*. It is expected that television receivers will be installed.

Passenger accommodation and public rooms, except the tavern, will be air-conditioned throughout with the most modern form of control and air distribution, and each cabin will be fitted with individual control, so that passengers may dictate their own desired climate. The contract has gone to Carrier Engineering Co., Limited. All crew cabins will be air-conditioned, and the majority of the staff will be accommodated in two-berth rooms. Keel-laying is fixed at Walker-on-Tyne for April and the hull will be launched in June next year for service in 1962.

Schedule for Rotterdam Vehicle Ferry

DETAILS are now available of the additional drive-on, drive-off service between Tilbury and Rotterdam to be commenced on June 10 by Transport Ferry Service. The new service will be operated by the specially constructed vehicle ferry ship m.v. *Bardic Ferry*, which will also continue to maintain the service between Tilbury and Antwerp. The Rotterdam schedule will commence with one sailing a week in each direction, leaving Tilbury at 6 p.m. Friday and arriving Rotterdam at 8 a.m. Saturday. The ship will return from Rotterdam at 6 p.m. on Saturday and arrive back at Tilbury 8 a.m. Sunday. Freight rates and passenger fares will be the same as for the Tilbury—Antwerp service.

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganizations.

Lancashire United Transport

For the year 1959 the net profit, after tax, of Lancashire United Transport, Limited, was £118,716 (£73,472, not strictly comparable). Dividend for the year is 12½ per cent (15 per cent, including 5 per cent bonus).

David Brown Corporation

The David Brown Corporation, Limited, shows a group profit, before tax, for year ended June 30, 1959—including £100,000 (nil) compensation received by a subsidiary—of £167,598 (£703,330), ordinary dividend (same). Current assets £10,288,752 (£10,386,782) and liabilities £6,467,400 (£6,397,572) including overdrafts, etc., £2,697,672 (£2,241,546). In the U.K., general engineering side of business has again had a successful year and orders received by these divisions during current year are over £2m. more than those obtained in the similar period of last year. The automobile gear and gearbox divisions are working to full capacity.

North British Locomotive

What they had set out to do last September had not had the speedy and satisfactory result required, says Mr. T. Coughtrie, chairman of the North British Locomotive Co., Limited, in his statement to shareholders with the report and accounts for 1959. As already announced, the loss for the year was £1,349,566. He says the situation is more difficult than was at first realised, and that it may be they did not act drastically enough. Like many other companies, their great difficulty was to secure efficient, enterprising, and responsible leadership at all levels. Reorganisation and the reallocation of production among the three works of the parent company has been under consideration. Everything possible was being done to revitalise the selling effort at home and overseas, and they were not without encouragement there. Orders at the end of the year were just over £11 million. They had received a substantial order for Voith transmissions for building into locomotives at British Railways workshops at Crewe and Swindon. There were better reports recently of N.B. locomotives in operation and reduction in the number of complaints.

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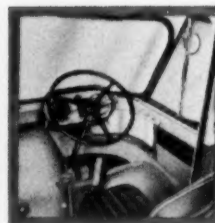
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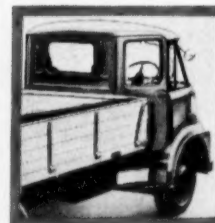
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